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The Feasibility of a Single Discrepancy Reporting System

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The Department of Defense acquires, manages, issues, and transports an immense amount of materiel each year. Discrepancy reporting is the process of identifying and resolving problems with that materiel.

Currently, discrepancy reports are processed in a predominately manual environment and are implemented under separate joint regulations. This report evaluates the feasibility of consolidating the discrepancy reporting into a standard set of procedures and integrating the automation of discrepancy reporting.

The report makes recommendations on improving discrepancy reporting, whereby DoD can improve materiel availability, product quality, and service to operating units. Further, implementation of the recommendations can result in net direct cost savings of $12.8 million over 8 years.

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Executive Summary

THE FEASIBILITY OF A SINGLE DISCREPANCY REPORTING SYSTEM

The Department of Defense acquires, manages, issues, and transports an immense amount of materiel each year. Discrepancy reporting is the process of identifying and resolving problems with that materiel. There are three principal discrepancy reports to deal with deviations in materiel received, defects in quality, and loss or damage during transportation. Reports on discrepancies in these areas are processed in a predominately manual environment and are implemented under separate joint regulations.

We evaluated the feasibility of consolidating the three processes into a standard set of reporting procedures and integrating the automation of discrepancy reporting. We found that DoD discrepancy reporting is characterized by fragmented policies and procedures; complex processing requirements; limited functional integration within or across the Military Services and Defense agencies; long preparation, transmittal, and processing times; and virtually no management oversight of the process.

We recommend that to eliminate those problems, the Deputy Assistant Secretary of Defense (Logistics) take the following actions:

- Designate a single OSD office to analyze discrepancy data and recommend improvements to the logistics process.
- Define in one procedural document a standard reporting methodology for all types of discrepancies and consolidate system operations staff oversight under the Defense Logistics Standard Systems Division.
- Encourage the integrated automation of all types of discrepancy reporting, at both the retail and wholesale levels. That automation should include recordkeeping, report preparation and transmission, investigation and research, controlling, feedback, disposition, and resolution processing as part of the standard logistics process.
- Manage the process for establishing discrepancy report data bases at appropriate levels, ensuring that those data bases are usable and accessible

to managers who need the information and instituting requirements for the use and sharing of discrepancy data.

By improving discrepancy reporting, the Services and DoD agencies can improve materiel availability, product quality, and service to operating units. We believe that implementation of our recommendations can result in net direct cost savings of $12.8 million over 8 years and in the following specific indirect benefits:

- Business practices in the Services and agencies will improve; operational effectiveness and productivity will increase.
- The quality of products and services from commercial sources will increase.
- The accuracy of the inventory of supplies will improve.
- Discrepancy reports will become more useful and report preparation, transmission, and processing times will decrease.
- Expenditures for nonstandard, nonintegrated discrepancy management systems will decrease.
- Waste, fraud, and abuse will be identified more readily and resolved faster.

Automation of the transmission of discrepancy reports and the integration of their processing must be done in concert to achieve the maximum level of benefits. Service and agency application programs must be extensively modified and enhanced. However, we believe that the most prudent approach, given the current resource climate, is to automate processes as we upgrade logistics applications or create new systems under the Logistics Standard Information System initiative sponsored by the Corporate Information Management program.

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CHAPTER 1

BASIS FOR DISCREPANCY REPORTING

PURPOSE OF DISCREPANCY REPORTING

In the Department of Defense, discrepancy reporting is the process of identifying and resolving problems with materiel. Of the many types of discrepancy reports, the three most common are:

- *Report of Discrepancy (ROD)* – The ROD reports deviations between materiel that should have been received and materiel that was received. Those deviations could include receiving more or less materiel than should have been delivered, the delivery of the wrong item, incorrect packaging, or a number of similar problems.
- *Product Quality Deficiency Report (PQDR)* – The PQDR reports defects in new or reworked materiel. It can include problems in design, specification, materiel, procurement, manufacturing, and documentation.
- *Transportation Discrepancy Report (TDR)* – The TDR reports in-transit loss or damage of materiel in transit or misrouting of materiel.

Any DoD activity or DoD contractor can generate a discrepancy report and that report can reflect on the performance of either Government or commercial activities. For example, a ROD might be generated at a DoD depot for a "short" shipment of materiel from a vendor or at a military base for a "short" shipment from a DoD depot. Similarly, TDRs can be generated as a result of problems arising from military or commercial transportation operations.

The primary objective of the DoD logistics system is to provide quality materiel to the operating forces in a timely manner. The size and scope of the operation are immense, including approximately $100 billion of materiel stored in more than 2,000 facilities worldwide supporting 175,000 potential customers. Knowledge of discrepancies is important because those discrepancies signal problems in the system.

The General Accounting Office (GAO) estimates that a significant portion of the DoD inventory is defective materiel or is being held because of processing anomalies;

the DoD suspended inventory is valued at approximately $900 million or about 0.9 percent of the $100 billion value of material stored. [1]

Given the dimensions of the DoD logistics system, materiel discrepancies are a reality that must be resolved in an efficient and timely manner. In addition to its concerns about the expense and the loss of readiness caused by discrepant materiel, DoD must respond to a congressional mandate that it reliably report and resolve discrepancies.

LAWS AND REGULATIONS ON DISCREPANCY REPORTING

Basis in Public Law

Discrepancy reporting has its basis in Public Law (40 U.S. Code 486), which sets forth the authority and responsibilities of the General Services Administration (GSA) in managing Federal property. To fulfill GSA's responsibilities, its administrator published discrepancy reporting procedures on 28 December 1976 (41 Federal Register 56320); those procedures are currently found in the Code of Federal Regulations at 41 CFR Chapter 101. The Federal regulations implement public law and deal with reporting discrepancies or deficiencies in materiel in four broad categories: quality, supply, transportation, and billing.

Pursuant to this responsibility, the GSA Administrator has permitted DoD activities to follow applicable DoD or Military Service/agency regulations in reporting discrepancies or deficiencies in material shipments and requesting billing adjustments. Specifically, the CFR (41 CFR 101-26.801) states the following:

> DoD activities should follow applicable DoD or Military Service/agency regulations in reporting discrepancies or deficiencies in shipments or material, or requesting adjustment in billings from or directed by GSA unless exempted therefrom in which case the provisions of this section apply. [2]

The DoD and the Services/agencies have implemented reporting requirements in a variety of joint regulations that have been prepared in coordination with, and with the concurrence of, the GSA Administrator. As such, it makes DoD and Service/agency regulations binding pursuant to a proper legal authority.

Consequently, the procedures are judicially noticed by courts and boards. Court decisions have routinely held that "... regulations issued under the ... [authority of the GSA Administrator] ... have the force and effect of law" . . ., [3] and any action

that is inconsistent with those procedures exceeds the power of the agency taking such action.

This common basis in law and procedure has enabled the GSA and DoD discrepancy reporting processes to evolve under common statutory authority with close coordination between the military and civilian executive agencies.

Basis in Military Regulation

Within DoD, the ROD, PQDR, and TDR programs are independently administered:

- The ROD program is a part of the Defense Logistics Standard Systems (DLSS) administered by the Defense Logistics Standard Systems Division (DLSSD). The governing regulations are Joint Defense Logistics Agency Regulation (DLAR) 4140.55, *Reporting of Item and Packaging Discrepancies,*[1] and DLAR 4140.60, *Processing Discrepancy Reports Against Foreign Military Sales (FMS) Shipments.*[2]
- The PQDR program is administered by the Directorate of Quality Assurance of the Defense Logistics Agency (DLA). The governing regulation is Joint DLAR 4155.24, *Product Quality Deficiency Report Program.*[3]
- The TDR program is administered by the Army's Military Traffic Management Command (MTMC). The governing regulation is Joint Army Regulation 55-38, *Reporting of Transportation Discrepancies in Shipments.*[4]

Reflective of this separate administration of the programs, each type of discrepancy is reported and processed through a separate Government standard form (SF): RODs – SF 364; PQDRs – SF 368; and TDRs – SF 361. Chapter 2 provides an overview of the current discrepancy reporting process.

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[1]Applicable Service ROD regulations are. Army Regulation 735-11-2, Secretary of the Navy Instruction 4355.18; Air Force Regulation 400-54; and Marine Corps Order 4430.3K

[2]Applicable Service FMS ROD regulations are. Army Regulation 12 12, Secretary of the Navy Instruction 4355.17; Air Force Regulation 67-7, and Marine Corps Order 4140.1F

[3]Applicable Service PQDR regulations are. Army Regulation 702-7, Secretary of the Navy Instruction 4855.5, Air Force Regulation 74-6; and Marine Corps Order 4855.5F

[4]Applicable TDR regulations for the other Services and DLA are. DLA Regulation 4500 15, Change 2, Naval Supply Systems Command Instruction 4610.33C, Change 2, Air Force Regulation 75-18, Change 2; and Marine Corps Order P4610.19D, Change 2.

CHAPTER 2

DISCREPANCY REPORT PROCESSING

GENERAL

In broad terms the three discrepancy processes follow a similar flow, but the specifics of the processes vary greatly. Each process is initiated when someone at a DoD activity finds some materiel that is discrepant. While such discrepant materiel can be found at any time, it is typically found when the item is first received at a site. The individual who finds the discrepancy manually completes the appropriate SF and mails it to the responsible activity. The responsible activity then attempts to resolve the problem and sends the results back to the reporting activity, usually on the reverse side of the initial form. The sections below describe typical flows for each process.

REPORT OF DISCREPANCY PROCESSING

The ROD is used by a DoD activity to report a shipping- or packaging-type discrepancy. Such discrepancies can consist of sending too many or too few of an item, shipping the wrong item, improperly packaging an item, and many other similar conditions. Upon discovery of the discrepancy, an employee at the receiving site completes the SF 364 and mails it to an action point. Typically, that action point is a storage depot (shipper) or an inventory control point (ICP) that manages the discrepant item.[1]

Employees at the action point resolve the ROD. The nature of their resolution depends entirely on the nature of the discrepancy. In simple cases, it may merely involve sending additional materiel (for a "short" shipment, for example), or if the wrong item was delivered it may mean returning the item to the point of origin and shipping the correct item. In numerous cases, resolution requires identification of the problem causing the discrepancy, negotiating a solution with the customer, adjusting inventory records at the depot and ICP, and adjusting the billing records for

[1]Other action points might be an International Logistics Control Office (ILCO) for RODs reported by an FMS customer or a contract administration office for RODs reported by a DoD wholesale site against a vendor delivery.

the depot, ICP, and customer. The resultant action is then recorded on the back of the SF 364 and mailed back to the initiating activity. Figure 2-1 shows a simplified overview of the ROD process, and Appendix A presents a comprehensive flow chart of the ROD process.

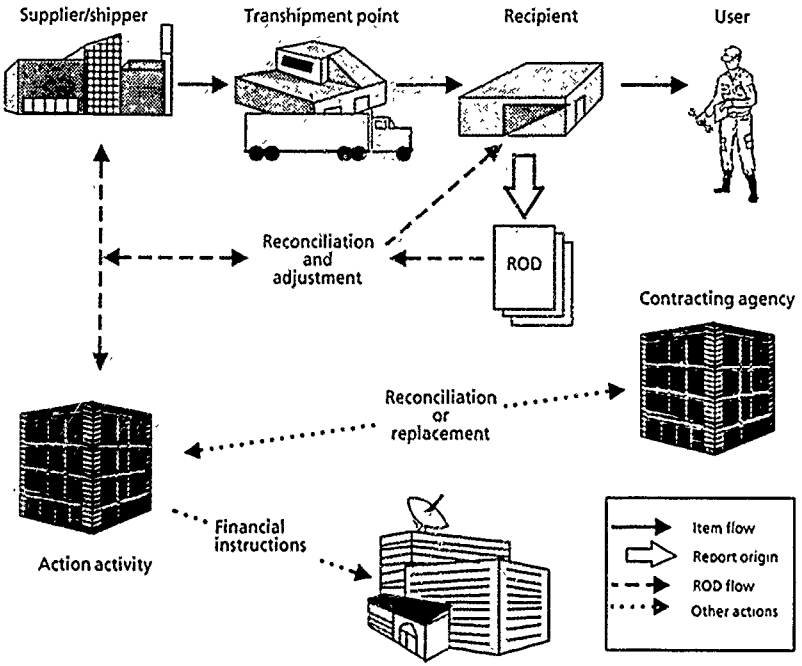

FIG. 2-1. ROD PROCESS OVERVIEW

Resolving the specific complaint is only half the issue. The depot or ICP should also attempt to determine if the root cause of the discrepancy is an isolated event or part of a pattern that must be rectified; however, this is rarely done.

PRODUCT QUALITY DISCREPANCY REPORT PROCESSING

The PQDR process identifies deficiencies in the design, specification, materiel, manufacturing, procurement, or documentation of an item. A PQDR can apply to either the item as initially manufactured or to the item after it has been reworked or repaired. PQDRs are the most critical of the discrepancy reports because defective items can, either directly or through the failure of larger items, result in major loss of property or life. Discrepancies covered by RODs or TDRs are far less likely to have such an impact.

As with the ROD, the PQDR is initiated when an individual notes a quality deficiency. That person then completes the SF 368 and mails it to a PQDR screening point. Within each Service or agency, many screening points are available and each is responsible for a specific range of items. A screening point has two primary functions. First, it determines that the submitted report is appropriate for the PQDR process and that the SF 368 is completed correctly. Screening points also determine whether the item is on warranty, and if it is, they process the PQDR through the appropriate warranty program. If the item is not under warranty, the PQDR is mailed to the action point for that item, typically either the ICP item manager or the contract administration office.

Resolving a PQDR can be an extremely complex and time-consuming process since many offices within the Military Service/agency or the contractor's organization may be involved. Further, the cause of the defect may not be clear. Frequently, a sample of the defective item must be shipped from the initiating activity to a place where it can be inspected and evaluated.

Resolution of the complaint frequently involves an investigation, the result of which may place a claim against the contractor. Determining the basic cause of the defect cited on the PQDR is extremely important because knowing the cause helps DoD determine whether the problem is an isolated event or one that could pervade its entire stock of the item.

Once the action point resolves the problem, the appropriate entries on the SF 368 are completed and it is mailed back to the screening point and thence, to the initiating activity. Figure 2-2 presents a simplified overview of the PQDR process, and Appendix A, a comprehensive flow chart of it.

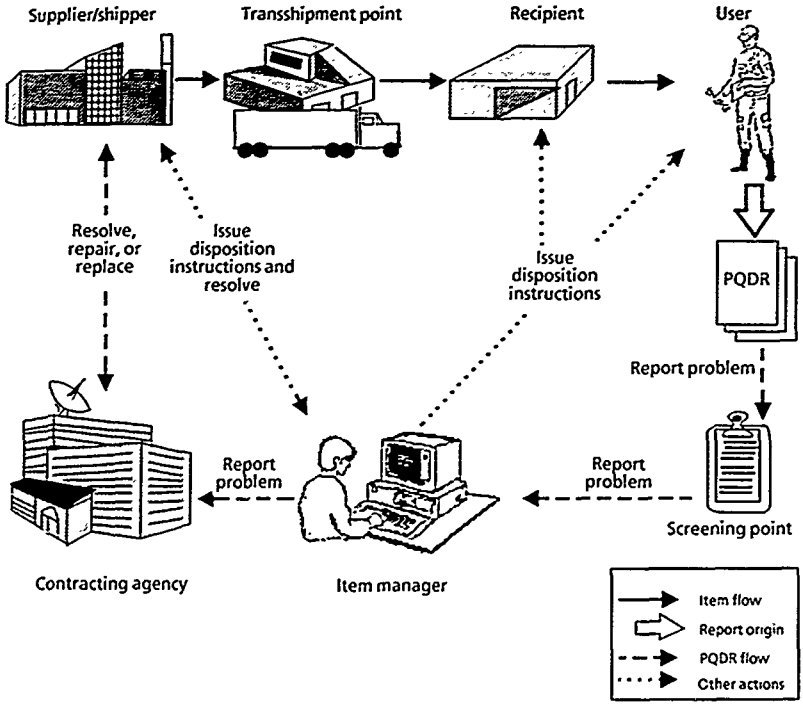

FIG. 2-2. PQDR PROCESS OVERVIEW

TRANSPORTATION DISCREPANCY REPORT PROCESSING

Loss, damage, or misrouting of materiel while in transit is reported on a TDR. The TDR is typically initiated at a transshipment point or by the ultimate recipient (again, the ultimate recipient could be either a retail-level base or a wholesale storage activity).

Unlike the ROD and PQDR, the TDR (SF 361) can serve two distinctly different functions. In one, it is referred to as a request for information (RFI). An RFI is used when the transportation office receiving the item tries to resolve the problem. In a typical scenario, a receiving location might initiate an RFI when a manifested item is

not received. The shipping office might respond that the item will be on a later shipment or provide specific shipping information. This would terminate the process and the TDR RFI would be canceled. For shipments received from contractors, RFIs may be sent to contractors.

The second function is escalating the RFI to a TDR if the RFI does not resolve the problem. The TDR is sent to the appropriate MTMC Area Command. That office, in turn, extracts data and transmits those data to a central data base at MTMC headquarters. MTMC does not perform any actions on the TDR but does provide summary data to the Services, DoD, and DLA. In addition to MTMC, the TDR is sent to any activity involved with the shipment and the consignee. TDRs cannot be sent to contractors except as evidence to support a claim as described below.

The TDR may result in a claim if the receiving transportation officers believe that a damage claim against a commercial carrier is justified. That officer must collect supporting documentation and forward it with the TDR to the claims office of the appropriate finance center. That claims office will evaluate the TDR; submit the claim to the carrier, if warranted, (using an SF 362, U.S. Government Freight Loss/Damage Claim); and attempt to obtain reimbursement for the Service that owns the materiel.

If a Government activity is at fault for damage to materiel, a TDR is completed but no claim is filed. The only reconciliation for the owner of the damaged materiel is through the Report of Survey process. Figure 2-3 gives a simplified overview of the TDR process, and Appendix A presents a comprehensive flow chart of the process.

SUMMARY

This chapter describes common flows of discrepancy documents. We have omitted the many special cases and have not described all the actions that are taken. Discrepancy reporting and resolution can be highly complex, even to the point of knowing what type of report to file. As an example, a maintenance engineer at a base may open a box to find that a fragile item is damaged. Is the manufacturer responsible for the damage or is it attributable to a DoD wholesale site, a military or commercial carrier, or the base itself? Was the damage caused by poor workmanship, faulty packaging, or improper handling? In many cases, the place at which the

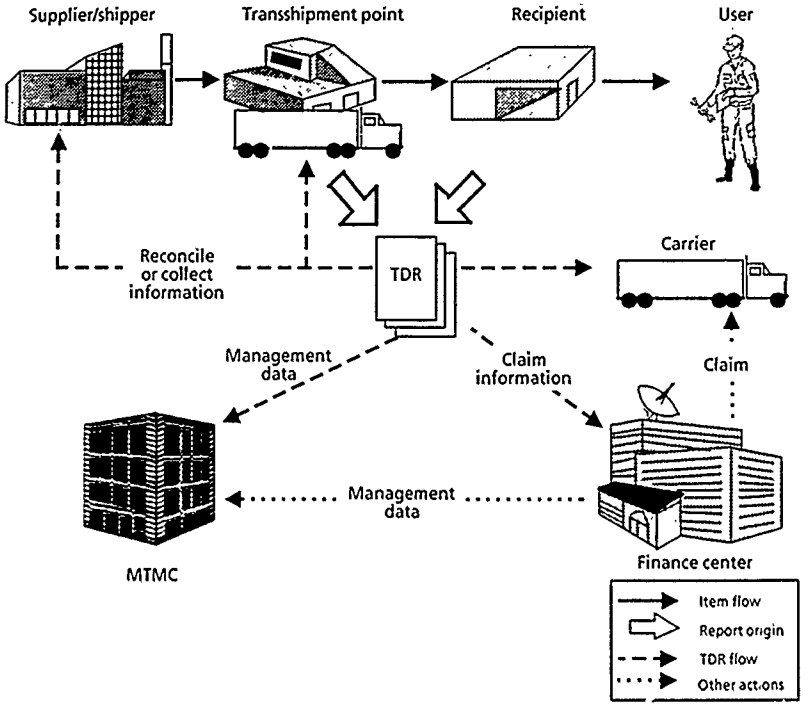

FIG. 2-3. TDR PROCESS OVERVIEW

problem occurred cannot be pinpointed, and therefore, selection of the correct form is questionable.

All three of the processes use paper forms and are labor intensive. DoD has long recognized the difficulties inherent in the processes and has attempted to improve them. The next chapters review these efforts and present our findings regarding the current process.

CHAPTER 3

EFFORTS TO IMPROVE THE PROCESS

AUDIT FINDINGS

Problems with discrepancy reporting have been identified in audits by GAO and DoD Inspectors General. The following are some of their most significant findings:

- Activities did not report quality complaints because they failed to understand the reporting instructions, failed to realize the importance of reporting, or did not believe the complaint would be resolved. [4]
- Discrepancies were not reported because customers were indifferent to reporting and had no financial incentives to report. [5]
- Action offices generally did not determine the underlying causes of the discrepancies but, rather, dealt primarily with credit. [6]
- Problems of quality could not be investigated because exhibits were returned to storage when the holding period (45 days) expired. [7]

Responding to these and other findings, various logistics entities have attempted to improve the process.

ATTEMPTED IMPROVEMENTS

In 1983, the DoD Quality Assurance Council convened an ad hoc committee to determine whether discrepancy reporting procedures could be simplified and standardized. They decided that combining the forms was not practical because of the large number of reporting organizations and the variety of information required.

In 1984, Headquarters, Army Materiel Command undertook an initiative to combine the ROD, PQDR, and TDR forms. Their feasibility study recommended the forms be combined and that a single publication provide the regulatory guidance. [8] However, the recommendation was not acted upon because several DoD organizations did not concur. The major objections were that the new form would complicate reporting and that a combination of the data from the three forms would reduce the effectiveness of the TDR as a claims document.

In 1984, DLSSD developed a series of proposed changes to the Military Standard Transaction Reporting and Accounting Procedures (MILSTRAP) that would provide for materiel receipt and supply discrepancy reporting in a standard DoD-wide electronic transaction. [9,10] These proposed MILSTRAP changes were not accepted by the Services because one Service felt it would place too much of a processing burden on retail-level receiving activities and another Service wanted a cost-benefit analysis performed to justify generating receipt acknowledgments. Eventually, materiel receipt acknowledgments were incorporated into MILSTRAP, but no further progress was made on supply discrepancy reporting.

Subsequently, Services and DoD agencies have automated selected portions of the discrepancy reporting process, but no Service or DoD agency has significantly standardized discrepancy reporting on a DoD-wide basis.

External to DoD, the GSA consolidated its discrepancy reporting process at the Discrepancy Reporting Center (DRC) in Kansas City, Missouri, in 1983. The DRC undertook several initiatives to document and automate the process flows in an integrated fashion, provide the capability to automate portions of discrepancy resolution decision making, produce meaningful management data, and improve the basic business practices of the regional depot operations.

CURRENT INITIATIVES

Two current initiatives – Corporation Information Management (CIM) and Modernization of Defense Logistics Standard Systems (MODELS) – affect DoD-wide discrepancy reporting.

Corporate Information Management

Through its CIM initiative, DoD is making a major effort to consolidate and modernize its diverse business practices and automated data processing (ADP) systems. The CIM initiative divides the logistics operations into various functional areas and assigns a Service or agency as the Executive Agent (EA) for each area. The Navy is the EA for acquisition within the Materiel Management CIM, and discrepancy reporting falls within its domain.

The EA is responsible for obtaining user requirements, evaluating all existing systems against those requirements, and making recommendations regarding the best approach to obtain a single DoD system to meet those requirements. That

approach could include using an existing system or systems, developing a new one, or using some combination of the two.

The Navy's Fleet Material Support Office is responsible for this task and began gathering information on existing systems in early 1991.

Modernization of the Defense Logistics Standard Systems

In a separate but related effort, the DoD's MODELS project is also looking at discrepancy reporting, but from a different perspective. The DLSS, which define and document DoD-wide policies and procedures for inter-Service logistics operations, have supported DoD logistics for nearly 30 years. The ROD is one of the DLSS and, as such, is administered by the DLSSD.

The Office of the Secretary of Defense (OSD) initiated the MODELS program to modernize the DLSS by taking advantage of new management and technical capabilities to meet increasing user requirements. One goal of the MODELS program is to convert existing fixed-length transactions into variable-length transactions. For the ROD, that "conversion" meant developing transactions to replicate the SF 364 paper form since no electronic transactions had been developed.[1]

Coincident with this effort, Headquarters, Army Materiel Command recommended to the Office of the Assistant Secretary of Defense (Production and Logistics) [OASD(P&L)] that the different discrepancy reporting processes be brought under the LSS. [11] OSD forwarded this proposal to DLSSD and tasked the MODELS program manager and the Logistics Management Institute (LMI) to evaluate the merit of combining the programs.

Chapter 4 summarizes our findings and conclusions from the review, and Chapter 5 presents our recommendations for specific improvements that should be made in discrepancy reporting.

[1]DLSSD proposes to rename the ROD the Supply Discrepancy Report (SDR) in conjunction with the MODELS program to bring the program title into closer alignment with the other discrepancy reports.

CHAPTER 4

EVALUATING THE PROCESS

BASIS FOR FINDINGS

In this chapter, we present the results of our analysis in five areas. The first three areas consist of the actual processing steps of initiating, transmitting, and resolving a discrepancy report. The final two consist of the broader aspects of management use of the programs and current automation support.

INITIATING A DISCREPANCY REPORT

Report initiation comprises those actions from discovery of the discrepancy and data collection through the point at which data are arranged into a report representative of an SF 364, SF 368, or SF 361.

Discrepancies can be discovered at any time, but they are most frequently discovered when the materiel is received at a site. When the problem is discovered, the data are usually collected manually by copying information from available supply or transportation documents. Discrepancy data collection generally is not automated even when the associated receiving process is. ROD and TDR data are usually collected in a receiving area and then utilized to prepare the report. DLA does not follow that process. The DLA Automated Discrepancy Reporting System (ADRS) automates data collection in the receiving area. The Air Force's San Antonio Depot has a similar capability, and it observed a 50 percent increase in the number of reports submitted since system implementation. PQDR data are usually collected manually by a user and put into the report format.

After the data are collected, the personnel preparing the report may also perform further research and/or conduct a preliminary investigation to confirm the discrepancy. TDRs in particular require a great deal of follow-up. They frequently have to be amplified through telephone calls and by sending RFIs to both the shipper and the carrier to determine the location of missing cargo or the condition of the cargo at various points en route.

In many cases, site personnel generate the paper discrepancy report from a small computer using either a data base or word processing application. These applications were usually developed independently at the site and vary widely in capability.

With or without automated assistance, completing the reports is time consuming. The end user must refer to the appropriate regulation to determine the rules for completing the form. If the user is at a site that handles materiel for more than one Service, the regulations for each Service it supports must be referenced. Even the distribution of the form varies by Service and stock number of the discrepant materiel.

A GAO audit stated that activities frequently failed to report quality complaints because they did not understand the reporting instructions, were not aware of the importance of reporting, or simply did not believe that they would receive a satisfactory response. [4] Our analysis supports that audit finding with respect to all discrepancy reporting programs.

TRANSMITTING A DISCREPANCY REPORT

Discrepancy reports are most often transmitted from the originator to an action activity through the U.S. Postal Service. On some occasions, the reports are sent by facsimile (FAX) message, electronic message, electronic mail (E-mail), interactive terminal entry at the GSA DRC, and direct electronic transmittal between discrepancy tracking systems at DLA depots and ICPs.

Those forms that are sent through the mail take the most time and lose days in delivery. The majority of that lost time may by consumed in the internal delivery of mail within the DoD activities. Electronic transmission by FAX or E-mail reduces those delays but still produces one major inefficiency: to the extent that the action activity is automated, all the data will generally be reentered into a data base.

Transmitting the discrepancy forms is only part of the problem. Many paper discrepancy reports are transmitted with supporting documentation attached. The additional paper or pictures provide supplementary information or evidence to the individual resolving the discrepancy. Many people we interviewed felt that the discrepancy reporting process could not be automated since supporting documents

are considered essential in resolving a discrepancy. However, many of those offices have FAX machines and image storage devices.

The transmittal problem becomes most acute with the PQDR in two ways. First, PQDRs are sent to intermediate screening points, which review them and provide some processing; they are then transmitted to the action point. Second, sample defective materiel must frequently be investigated, which necessitates sending the materiel to an inspector or sending the inspector to the materiel. Requesting materiel inspections results in the transmission of several additional transactions. The action or support activity requests the materiel, the initiating office acknowledges the shipment in a transmittal separate from the actual shipment of the materiel, and often, receipt acknowledgments and follow-up requests to delinquent activities are also involved.

RESOLVING A DISCREPANCY REPORT

Resolving discrepancy reports is the responsibility of the action activity. While specific action activities vary by type of report and Service or agency, typical action activities for RODs are ICPs, depots, and contracting offices and typical action activities for PQDRs are program managers, item managers, and quality branches within contracting offices. TDRs are resolved by the initiating office, except for claims against commercial carriers, which are resolved by the appropriate claims office.

Resolving the different discrepancy reports tends to vary much more than initiating and transmitting them. Thus, we describe them individually.

Resolving a ROD

Most action activities have an automated tracking system into which they enter received RODs. Thereafter, most of the processing is manual. Resolving the ROD is a labor-intensive job of tracking records and talking with personnel involved. Once the cause is identified, inventory, billing, or payment records must be corrected. Finally, the tracking system must be updated and a response mailed to the initiator. Our information indicates that it requires an average of 94 days to resolve a ROD and most activities had a backlog. A 1990 Army report showed that for 50 percent of the closed RODs, processing required more than 90 days. [12]

The effect of these excessive delays upon suspended materiel awaiting discrepancy resolution was evident at one retail activity that we visited; its 383 unresolved RODs were causing $1.214 million worth of materiel to be held in suspense.

Resolving a PQDR

Resolving PQDRs frequently requires that Government quality inspectors and representatives of the organization (commercial or Government) suspected of causing the disparity analyze samples of the faulty materiel. Those analyses, in turn, may lead to expensive testing and inspection of other sets of the same materiel both at the site of manufacture/repair and at other DoD holding locations. Once the quality office and the responsible organization agree to the cause and extent of the problem, they must agree on its resolution. That resolution may be as simple as regarding the problem to be a "one-time event" and replacing a single item. However, it may also be as serious as recalling hundreds or thousands of items throughout the DoD wholesale and retail system. Resolving PQDRs can also mean modifying contracts, delivery schedules, and payments.

Unresolved PQDRs frequently mean that DoD must suspend, or hold, the "frozen" materiel, and as a result large amounts of DoD funds are tied up. The GAO reported that as of December 1988, DoD had placed more than $900 million of spare parts and other secondary items in suspended status. [1] We also note that since the Air Force uses a unique condition code to classify PQDR exhibits, the dollar value is likely greater than that presented in the GAO report.

While $900 million represents the value of materiel that is not available for use, discrepancy processing is costly in at least two other ways. First, according to DoD standards, the holding costs for $900 million would be more than $9 million a year. Second, since materiel is usually procured to replace the suspended materiel, additional costs are incurred for materiel acquisition as well as processing, delivery, and storage.

The dollar value of suspended materiel is directly related to the discrepancy processing cycle time. The longer the processing cycle, the higher the dollar value of suspended materiel at a point in time. Processing offices typically characterize the value of their work in process (WIP) based on the length of time the report has been in the processing cycle; our data showed that time averaged 122 days. Services and

agencies have an average of 4,154 PQDRs in progress each month. If the discrepancy processing cycle were shortened, so that no items were in work beyond 30 days (all else being equal), the total value of suspended materiel would be reduced substantially.

Resolving a TDR

Responsibility for resolving a TDR falls primarily upon the person who initiates it. That person sends RFIs to the shipper, carrier, and transshipper, as appropriate. If the TDR indicates damage, the initiator must collect related pictorial evidence and other evidence. TDRs fall into two primary categories: lost, delayed, or frustrated cargo; and damaged, destroyed, or stolen cargo. The first category is the most easily resolved because the materiel eventually reaches its destination in most cases. However, the owner of the materiel must often decide whether to wait for the missing materiel to appear or to initiate a duplicate order. It can be as many as 60 days after discovery of the discrepancy before the TDO is filed. Resolving the TDR also requires a great deal of time; one ICP reports that it takes up to 166 days.

The recipient is faced with a similar dilemma on damaged materiel. Furthermore, if a claim is to be made against a commercial shipper, the action officer must forward information to the appropriate claims office. The claims office will then adjudicate the value of the loss to DoD and inform the shipper. In 1990, the Defense Finance and Accounting Service (DFAS), Denver reported that 475 claims were placed against carriers resulting in DoD recovering approximately $900,000, and DFAS Indianapolis reported that approximately 2,500 claims were placed against carriers resulting in DoD recovering approximately $3 million.

If the damage occurs at a DoD activity, including a shipping depot, military transportation asset, or a transshipment point, the receiver of the item is simply out of luck. The DoD has no cross-Service liability or settlement procedure. The requisitioner must pay for the repair of the item or for its disposal and replacement.

Automation Support for Resolution

In contrast to the plethora of systems at the retail level, at the action point level, most of the Services have standard discrepancy tracking systems. For the most part, those standard systems track the receipt and completion of individual

discrepancy reports at each action point. Most, however, do not perform the following functions:

- Receive discrepancy reports electronically to eliminate reentry of the data
- Automatically process simple discrepancies to lower personnel processing costs dramatically
- Automatically transfer data to the inventory and/or billing systems, rather than requiring separate actions to update those systems, even when the discrepancy is manually resolved
- Aggregate data to analyze the larger picture and to identify problems endemic to the logistics system or specific activities.

Some Service and agency systems do address some of these areas, but none addresses the whole problem and certainly none crosses Service boundaries. Perhaps the best system is the GSA Automated ROD Resolution System (ARRS), which manages all discrepancy reports received at the DRC. It automatically resolves discrepancies that fall within specified parameters, generates the necessary financial transactions, prepares responses to the customer, and produces both internal and external management reports. Its use affords the technicians more time to resolve the more complex, time-consuming discrepancy reports. A future version of ARRS will be capable of receiving electronically transmitted reports and will be fully integrated with financial and supply systems.

Summary

While each type of discrepancy requires different resolution processing, such processing is labor intensive, time consuming, and expensive to DoD.

MANAGEMENT REPORTING

Discrepancy reporting offers a means for developing trend and other management information that Services, agencies, and DoD management can use to analyze activity business practices. Analyzing trend data could answer questions such as the following:

- Is a given activity showing a significant or continuous increase in discrepancies being reported, thereby indicating a performance problem? The activity might be DoD, a commercial carrier, or a manufacturer.

- Is an abnormal number of discrepancies against a specific product or type of product pinpointing an otherwise unobserved manufacturing, design, or packaging flaw?
- Is it appropriate to consider PQDRs in evaluating a vendor and/or product in future contract awards?

On the basis of our review of the audits and our own interviews, we conclude that management review of discrepancy data is inadequate. To the extent it is done at all, it is generally done within a single activity to evaluate its own performance. We saw no inter-Service or inter-agency analysis. One reason for this lack of cooperation is the small number of automated data bases available to collect and manipulate discrepancy reporting data.

While MTMC maintains a central data base for collecting TDR data (excluding RFIs), users have only limited access to the data.

The Army operated a data base, the Central Repository for Reports of Discrepancy (CERROD), of closed RODs and from it issued a semiannual summary and analysis report. Both the data base and report have been terminated. The Deficiency Reporting System (DRS) data base located at the Materiel Readiness Support Activity in Lexington, Kentucky, now receives monthly updates from some action activities on RODs and PQDRs (as well as some other discrepancy reports) processed, and is available for external query. It is also capable of producing a limited range of reports.

The DLA's PQDR data base consolidates selected DLA quality data from the agency's supply and procurement systems into one repository that can be accessed by the Services. We did not find any capabilities to manage discrepancy information across Services despite the fact that the Services use many of the same vendors, products, and carriers. Even to the extent that discrepancy data are available, we found no clear indication that the Services, agencies, or DoD management use those data to reduce the amount of discrepant materiel or improve DoD operations.

The Navy's quality systems collect data at two screening points. Selected data from the systems at these points are sent to the Product Deficiency Reporting and Evaluation Program (PDREP) data base. ROD data are maintained independently at the supply centers in the Automated ROD System (ARS): activities send manual reports quarterly to higher headquarters.

The Air Force's Infocen data base contains records of PQDR data that are accessible by the processing points. Air Force ROD data are maintained at each Air Logistics Center, and standard reports are provided to Headquarters, Air Force Logistics Command.

ISLANDS OF AUTOMATION

The Services have a substantial amount of automated systems for discrepancy reporting, but it is highly fragmented. Appendix B briefly describes the larger systems.

No integrated Service-wide discrepancy reporting capability is available at the retail level. However, many retail locations have automated their individual processing on personal computer (PC)-based systems. In most cases, the users can enter the form data on their PCs and then print the form. Some of the systems also track the status of reports initiated there.

All of the Services and agencies have some Service-wide system at major depots and ICPs. For the most part, those systems do not provide automated report processing and only track RODs and PQDRs initiated and/or processed at that site. None of that data is shared with other activities. Only a few of these Service-wide systems provide electronic transmission of reports, and those that do only do so within that Service or agency.

Information we collected suggests that processing as many as 40 percent of the RODs (by far the most numerous of the reports) could be automated, leaving personnel to concentrate on those RODs that are more complex and expensive. Despite this belief, none of the systems (except the GSA ARRS) has any automated processing capability although both DLA and the Navy have considered such systems.

In summary, while a great deal of automation exists, each system is a separate island:

- At the retail level (bases, ships, etc.) most sites operate independent using user developed systems.
- Little information is transferred between the retail and wholesale (ICPs and depot) levels.

- At the wholesale level, Service and agency standard systems are available, but little information is shared among activities and none is shared across Services.

CONCLUSIONS

All of our information leads to the conclusion that discrepancy processing within DoD is in desperate need of automation and of integration at all levels.

Initiation

The disparate and complex rules and regulations governing reports of discrepancy make it difficult for initiators to complete a report correctly. The slow and inadequate resolution process provides a further significant disincentive for initiating a report. We believe that if initiating a discrepancy report were simplified and if the importance of these reports were more widely appreciated, a significantly greater number of discrepancies would be reported.

Simplifying the process should include integrating discrepancy reporting into existing supply, production management, and transportation systems (wholesale or retail level) to link supply, receipt, and discrepancy information and impose a minimal additional workload on the user. Such systems should also incorporate "artificial intelligence" approaches to unify the various processes.

Small activities will probably continue to use the paper forms. We concur with earlier analysis that we should not create a single combined form for it would perforce be lengthy and complex.

In conjunction with the effort to simplify the initiation of discrepancy reports and their processing, OSD should standardize the diverse regulations and integrate them to the extent possible. Additionally, OSD should review existing policy and update it in light of current technological capabilities, particularly the need for supporting documentation to accompany a report submission. Even if policy continues to be determined by separate organizations, the adoption of a single style and methodology of presentation would greatly benefit the users.

Transmission

Electronic data interchange (EDI) is the process of exchanging business forms electronically between organizations. It has been used successfully in the private

sector to improve performance and reduce costs. It is also being used increasingly within DoD. EDI transactions can connect the initiator to the action activity. Continued reliance on paper forms to transmit discrepancy reports causes unnecessary delay and expense when the same data have to be reentered at each processing point; it also increases the probability of errors occurring in the process. Reliance on E-mail does not improve the situation as it is not "machine processable." The use of EDI to carry machine processable versions of the data between initiating and processing application systems is a practical and efficient method to eliminate bottlenecks caused by paper forms and E-mail.

In our interviews, many personnel were concerned that the entry or transmission of supporting documentation could not be automated. We believe those concerns are valid, but they should not prevent us from automating the SF 36__ forms. We can continue to provide required supporting documents separately as a follow-up to the electronic SF 36__ form. Some of the Services are developing an electronic imaging capability that should be used where possible to transmit supporting documents.

Processing

Processing the discrepancy report resolutions offers the most significant direct savings opportunity. Receipt of EDI transmissions alone eliminates many clerical costs involved in receiving and entering the report. Using artificial intelligence routines to automatically resolve, process, and notify the initiator for simple discrepancies will also streamline business practices and save money.

The CIM-initiated Logistics Standard Information System (LSIS) planned for ICPs and the Defense Distribution System (DDS) planned for depots would both clearly benefit by being integrated with a discrepancy reporting system.

Management Information

Integrating summary discrepancy information across activities and Services will provide managers clearer visibility over performance trends and business practices for all three types of discrepancies. This level of integration offers an immense potential for indirect savings and will eliminate overlapping Service systems performing the same functions on a smaller slice of the data.

CHAPTER 5

RECOMMENDATIONS

INTRODUCTION

Our findings identified three separate discrepancy reporting programs that are noticeably underutilized. They have no single, coordinating sponsor and only sporadic support within the Services. The thrust of our recommendations is to develop a coherent and integrated discrepancy reporting program. Specifically, adoption of these recommendations will lead to continuous improvements in discrepancy reporting and will foster improvements in materiel availability, product quality, and service provided to operating units. Net savings of $12.8 million can be realized over 8 years.

DEFINE A STANDARD REPORTING METHODOLOGY

The Defense Logistics Management System (DLMS)[1] provides an efficient, standardized inter-Service logistics system. Despite the fact that all three of the discrepancy reports are highly inter-Service/agency in nature, only the ROD is included in the DLMS. We recommend that DLSSD incorporate the PQDR and the TDR into the DLMS and then develop and publish an integrated discrepancy reporting manual.

The timing for this transfer is excellent since DLSSD, in conjunction with the Services and agencies, is in the process of implementing the DLMS. This effort includes rewriting many of the current manuals and converting the transactions from 80-character, fixed-length transactions to variable-length EDI transactions. The American National Standards Institute's Accredited Standards Committee (ANSI ASC) X12 is actively developing EDI transactions for transmitting commercial equivalents of DoD discrepancy reports. We recommend that DLSSD participate in this effort to ensure its utility for the Government.

[1]DLMS is the variable-length replacement format for the DLSS as a consequence of the MODELS project.

Although we recommend transferring responsibility for publishing DoD guidance on discrepancy reporting to DLSSD, we believe that MTMC and DLA should retain the responsibility for establishing policy. All of the DLSS are administered by DLSSD through committees of Service/agency representatives, and those committees receive policy direction from relevant policy offices.

AUTOMATE REPORT PROCESSING

We recommend that DLSSD integrate the automation of all types of discrepancy reporting at both the wholesale and retail levels. We believe that it should automate the discrepancy process in four distinct operations:

- Report initiation
- Electronic transmission format development
- Automation of discrepancy resolution
- Automation and consolidation of management information.

Wholesale Discrepancy System

Developing a wholesale discrepancy reporting system that is integrated with the LSIS for ICPs and the DDS for depots is clearly within the CIM mandate, and the Navy's Fleet Material Support Office has been assigned responsibility for discrepancy reporting. The Navy is now evaluating current discrepancy systems to use as the basis for the LSIS discrepancy module.

We recommend that the Navy modify the system(s) it selects to accomplish as a minimum the following three functions:

- To automate ROD resolution to the extent possible
- To utilize DLSSD-developed EDI transactions to eliminate most paper-transmitted data entry
- To integrate data requirements and standards with retail systems.

Retail Discrepancy Systems

The CIM effort has left retail system discrepancy reporting to the individual Services. We recommend that the Services work in conjunction with DLSSD and the

Navy to determine the data requirements and policy for electronic transfer of discrepancy data.

We further recommend that DoD provide the Services with the funding and direction to develop discrepancy modules associated with their retail systems that would provide the following:

- Efficient entry of discrepancy data in conjunction with normal processing functions
- Automatic generation and transmission of electronic discrepancy reports in a standard inter-Service format
- Automatic tracking of initiated discrepancy reports including follow-up and receipt of responses from the action activities.

The DoD should integrate the timing for each of these efforts (integrated policy and procedure development, retail system development, and wholesale system development) into a workable schedule.

MANAGE THE PROCESS

To derive benefits from discrepancy management information, we must exploit the technology to collect, manipulate, and make the information available in a useful form. We must also direct management attention to analysis of the data and to the initiation of remedial actions when problems are identified. It is important to collect this information across Service/agency boundaries in order to properly evaluate contractor and carrier performance as well as to analyze DoD Component business practices.

We recommend that the Director of Supply Management Policy under the Deputy Assistant Secretary of Defense (Logistics) be given the responsibility for establishing appropriate data bases and analytic capabilities that can be used by managers in that office, DLA, and MTMC to analyze discrepancy data in their respective areas of responsibility. The Director of Supply Management Policy should work with DLA, MTMC, and the CIM discrepancy EA to define information requirements and the best technical approach for meeting them.

Cost Savings

The cost of developing these automated discrepancy reporting systems should be considered with the expected benefits. Defense Management Report Decision (DMRD) No. 941 provides guidance and encouragement for Service/agency use of EDI. Specifically, it identifies 20 forms (including the three SF 36__ discrepancy reports) used extensively within DoD and identifies savings that could be obtained by converting these 20 forms to EDI transactions. Further, it provides funding to Services/agencies to initiate programs to convert the forms to EDI. It then projects reduced Service/agency budgets on the assumption that they will successfully execute these programs and accrue the resultant savings.

The DMRD projects life-cycle direct savings of nearly $1 million annually for the three forms. Our more detailed analysis of discrepancy reporting flows shows total life-cycle direct savings of up to $15.1 million. With an investment cost of $2.3 million, net savings amount to $12.8 million.[2] We found significant increases in expected savings from the TDR and ROD. The DMRD used summary Service figures which only accounted for TDRs which were formalized and sent to MTMC. It did not account for the thousands of RFIs exchanged among activities. The increased savings in the ROD are related to higher savings in mailing and processing.

The DMRD also defines in a more general way the indirect benefits that can be gained. We believe these indirect savings may be far larger than the direct benefits, but can only be obtained if the management improvements recommended above are accepted.

Specific areas in which indirect benefits are expected to accrue include the following:

- Improved business practices should result in improved operational effectiveness and productivity.
- Product quality and services from commercial sources should be improved.
- Materiel inventory accuracy and availability should improve.

[2]Calculation of $15.1 million savings and $2.3 million investment cost follows the computation methodology expressed in the DMRD assuming an 8-year implementation period. Alternatively, the "business case" [13] methodology yields total life-cycle direct savings of only $11.6 million and an investment cost of $1.8 million for three forms. [1] See Appendix C for details of the calculations.

- Discrepancy report use should increase while report preparation, transmission, and processing times decrease.
- Expenditures for nonstandard, nonintegrated discrepancy management systems should decrease.
- Waste, fraud, and abuse could be identified more readily and resolved faster.

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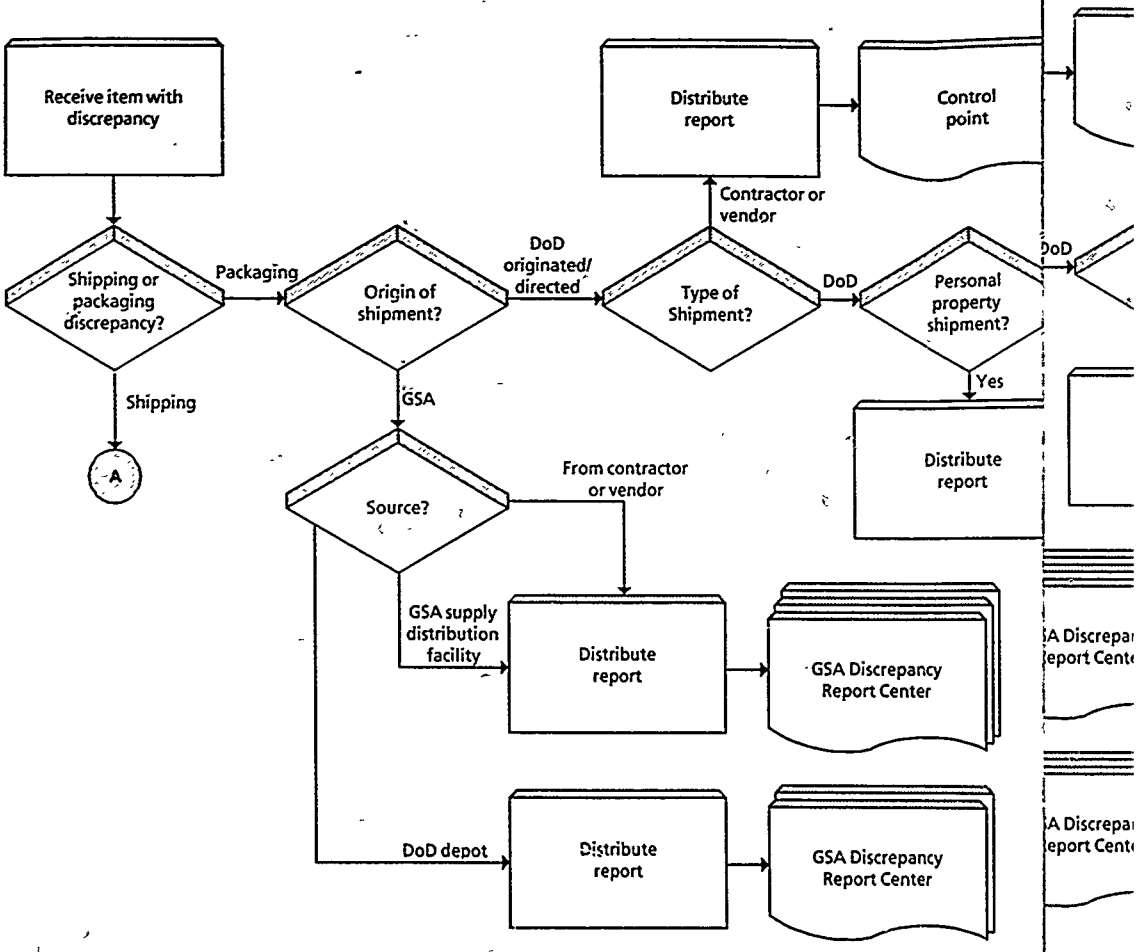
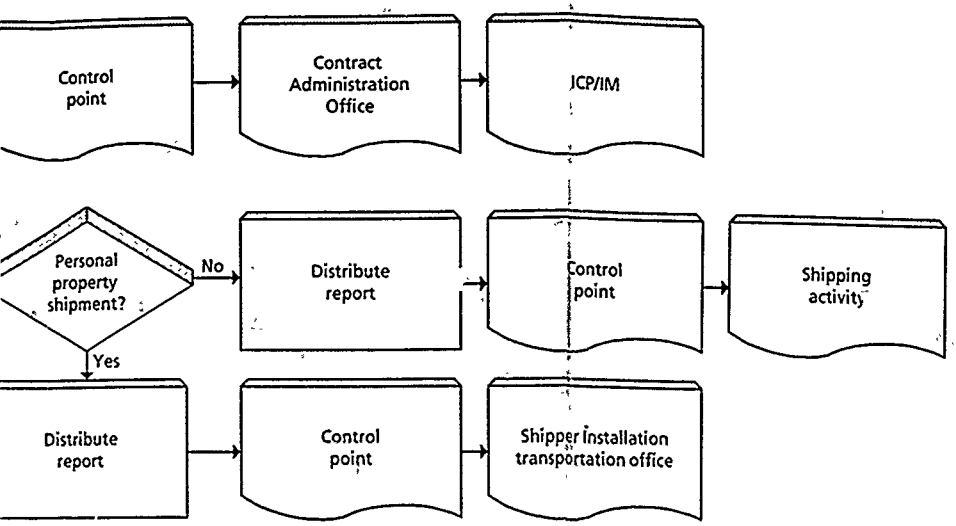
APPENDIX A

FLOW DIAGRAMS OF DISCREPANCY REPORTS



Note. ICP = Inventory control point, IM = Inventory Manager, GSA = General Services Administration.

FIG. A-1. REPORT OF DISCREPANCY



repancy Center

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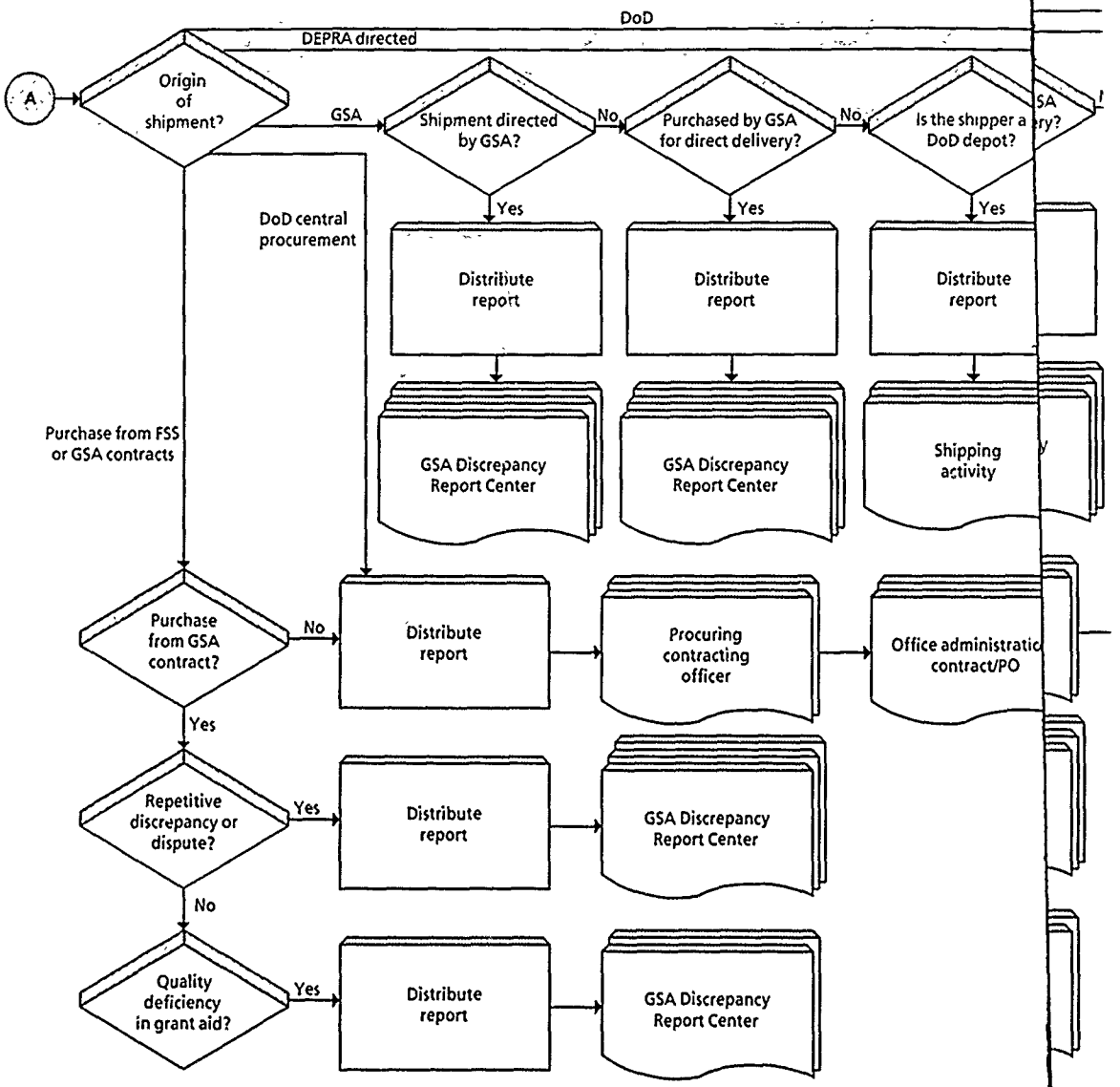
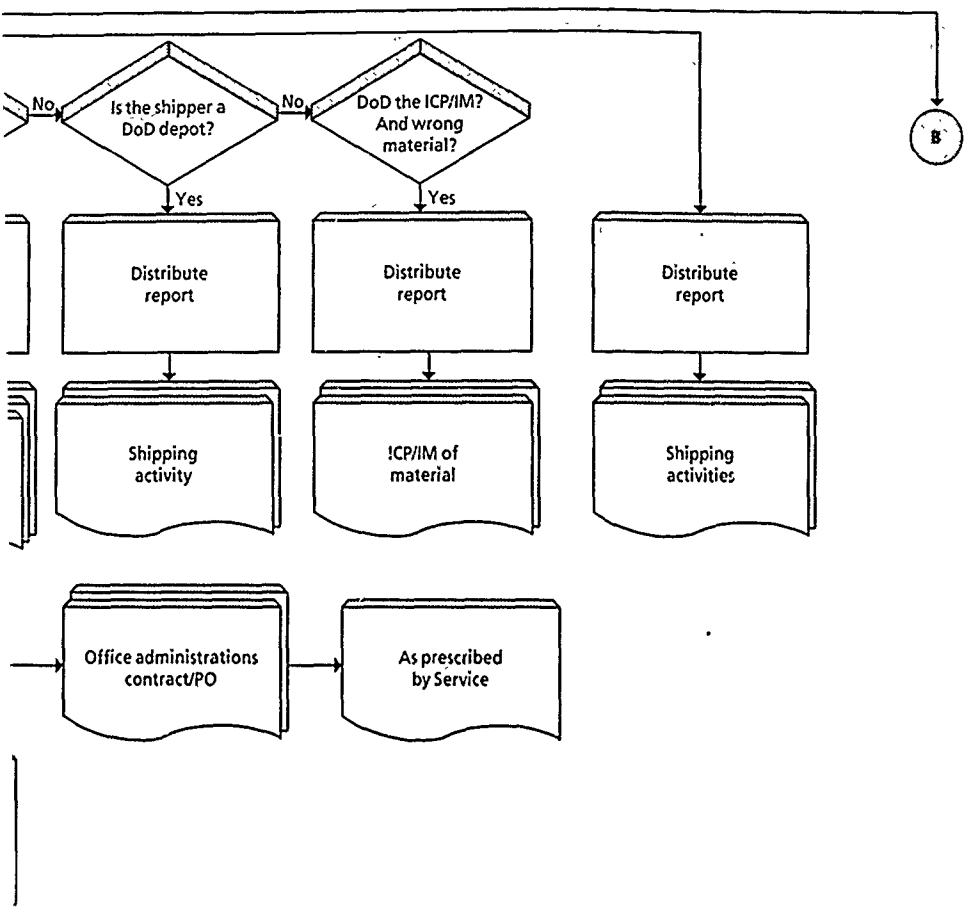
RT OF DISCREPANCY FLOW

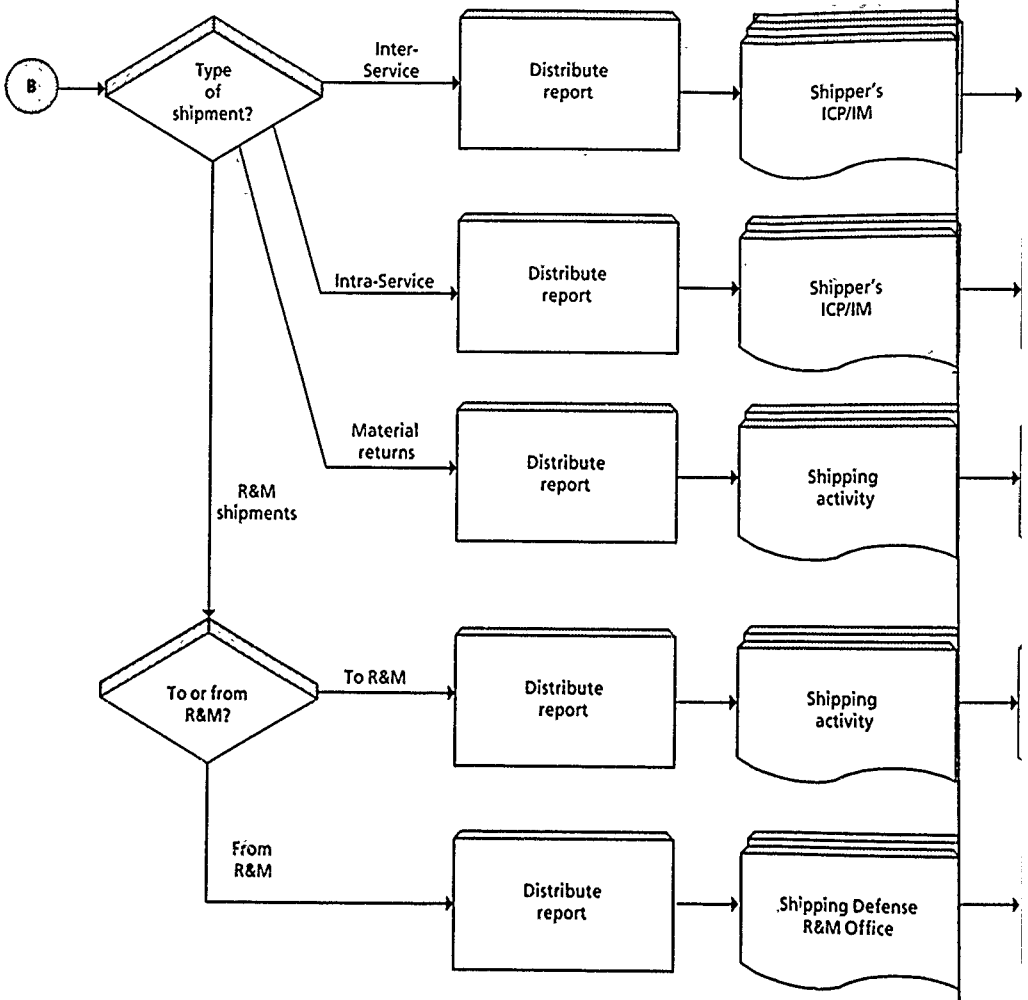


Note: FSS = Federal Supply Schedule; PO = purchase order, DEPRA = Defense European and Pacific Redistribution Activity.

FIG. A-1. REPORT OF DISCREPANCY FLOW (Con

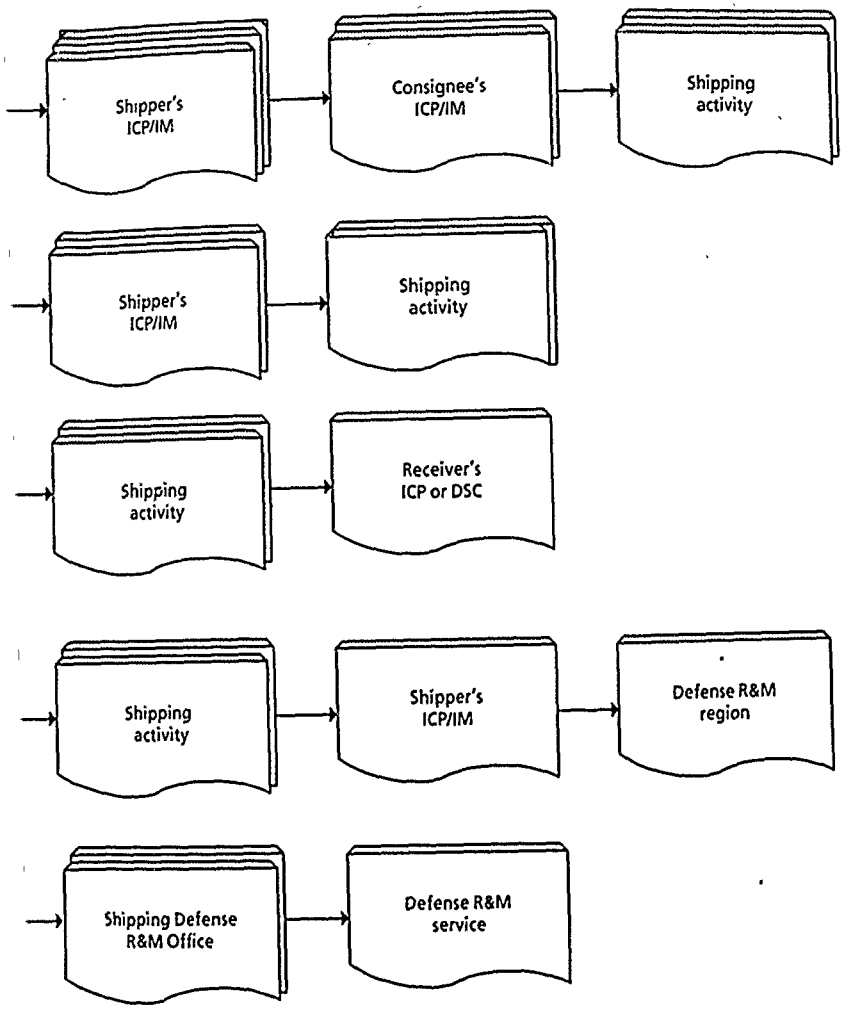


F DISCREPANCY FLOW (Continued)



Note: R&M = Redistribution and marketing; DSC = Defense Supply Center.

FIG. A-1. REPORT OF DISCREPANCY FLOW (Contin T OF DI



OF DISCREPANCY FLOW (Continued)

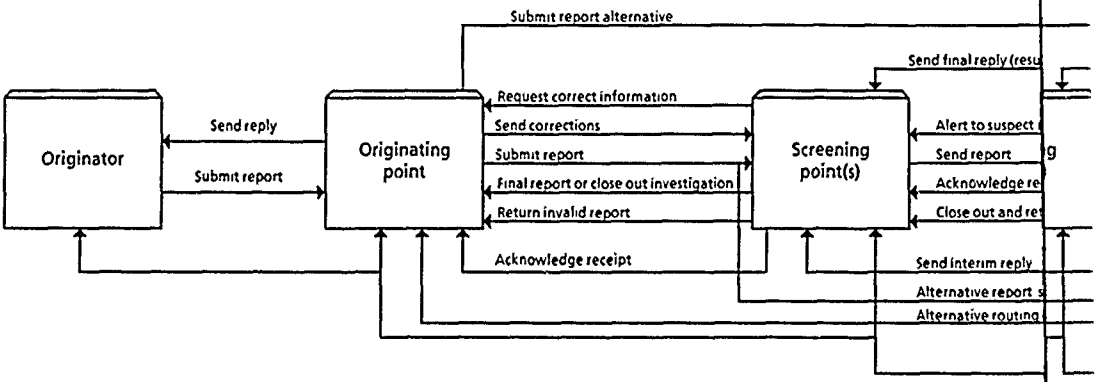
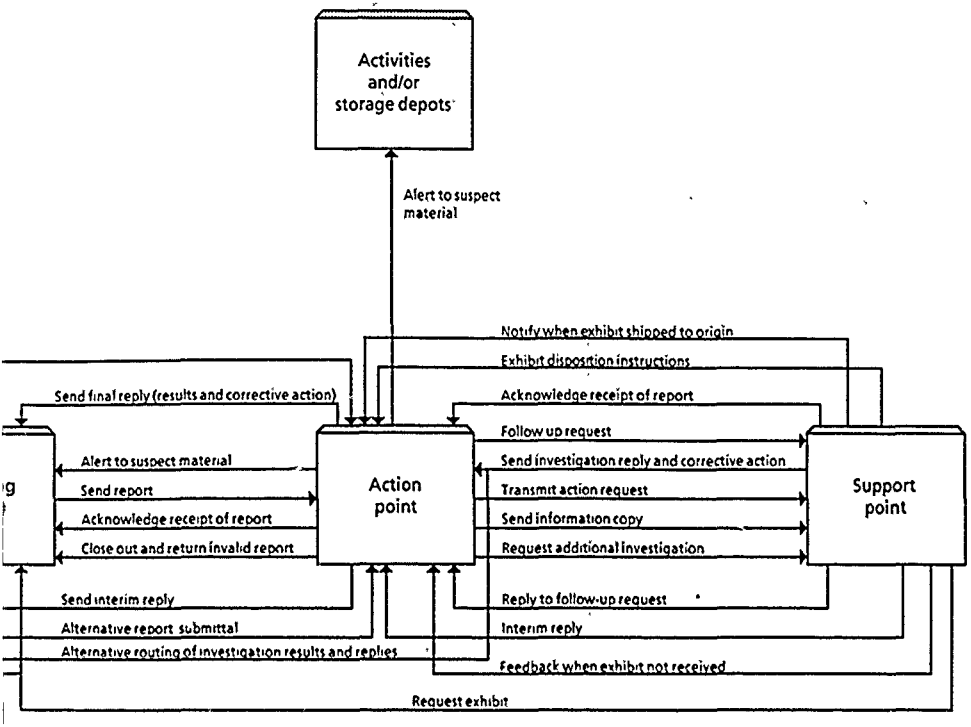
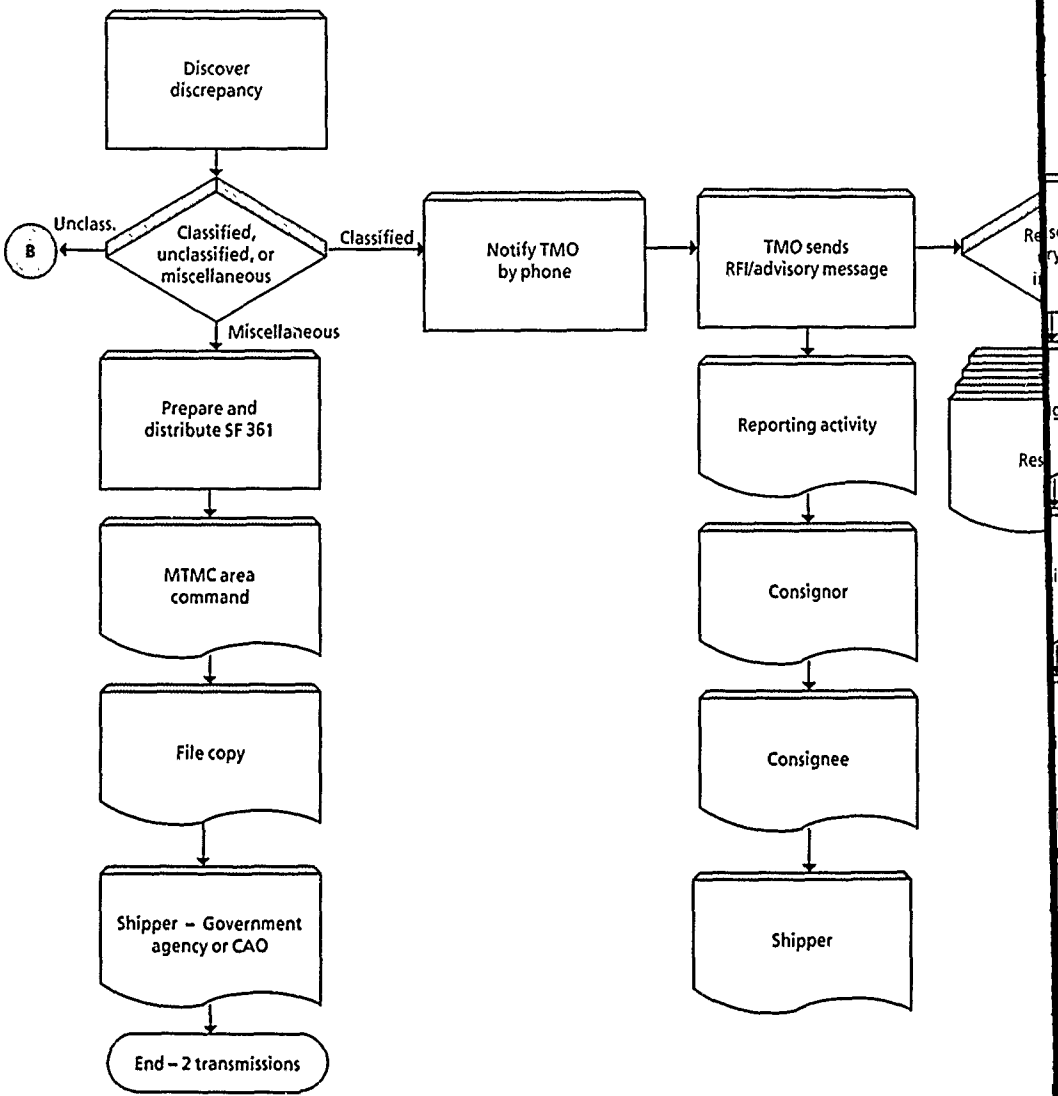


FIG. A-2. PRODUCT QUALITY DEFICIENCY REPO LITY

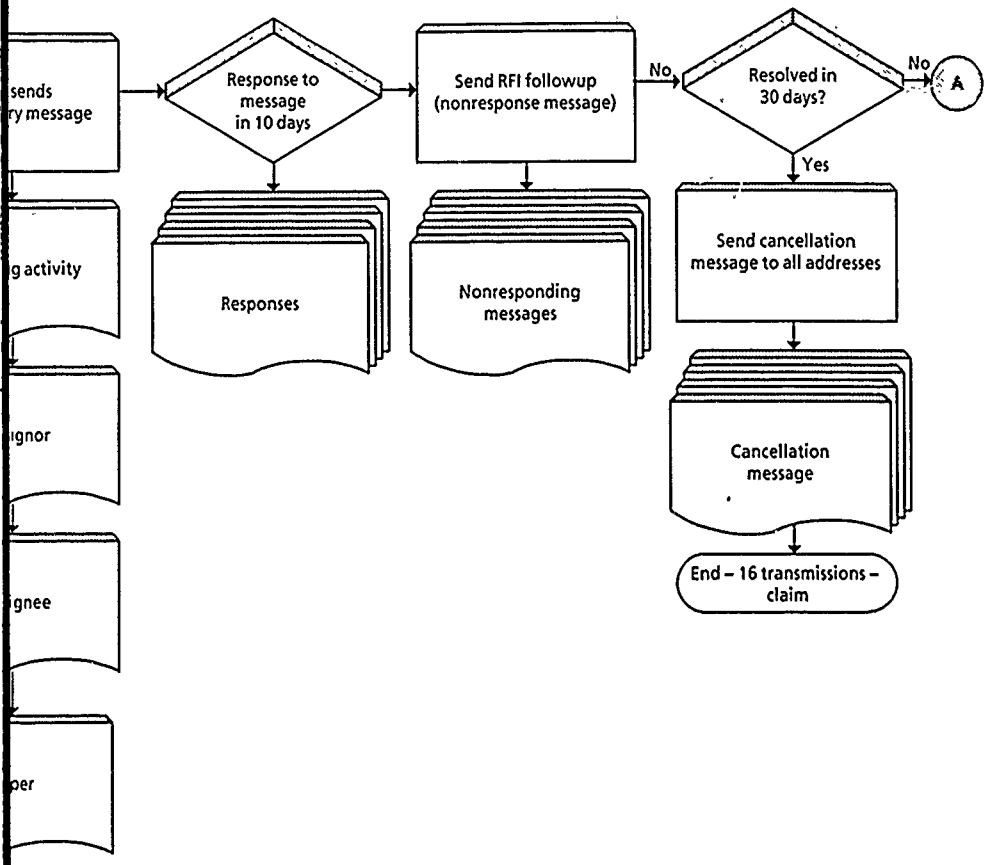


LITY DEFICIENCY REPORT FLOW CHART



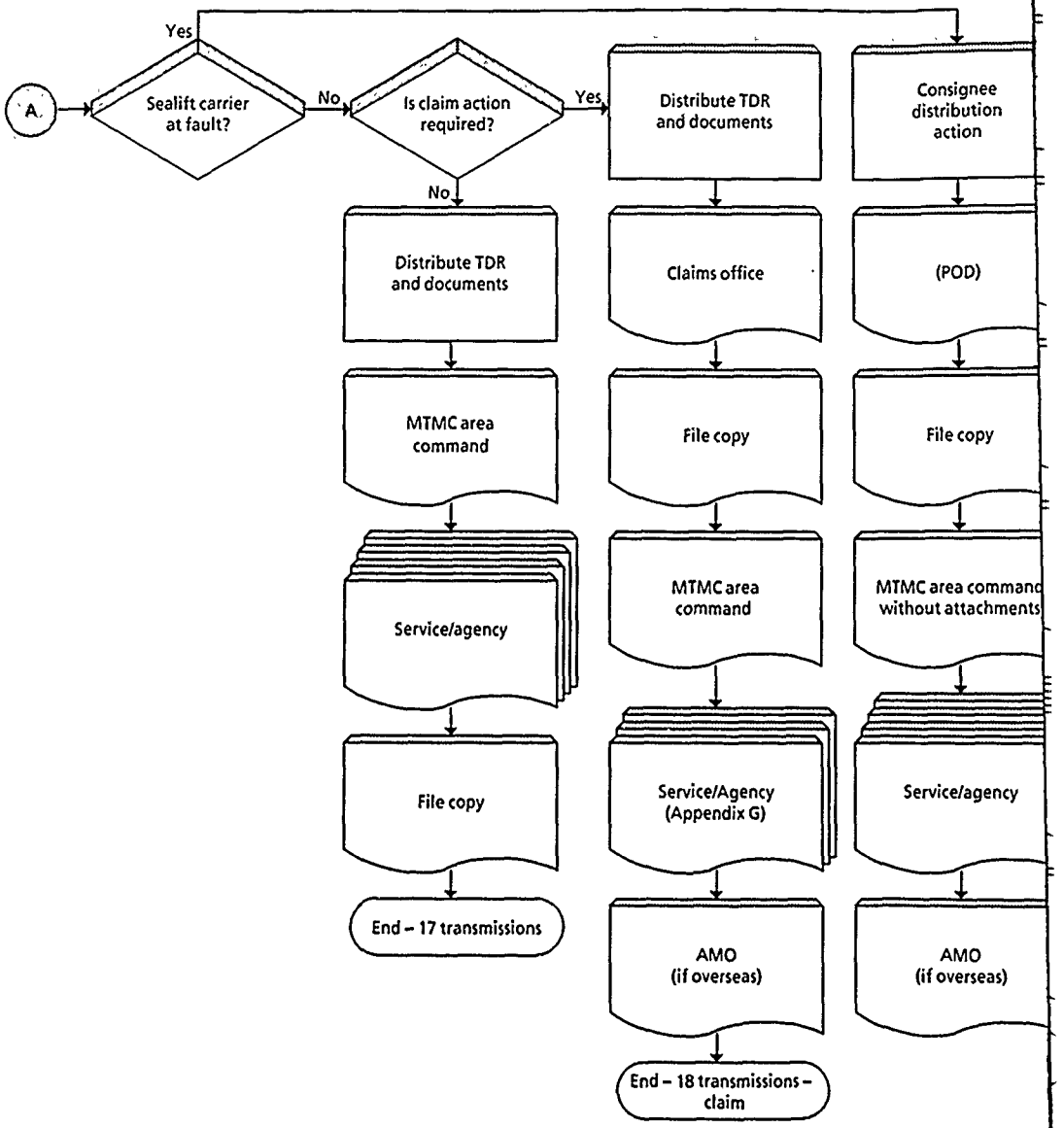
Note: MTMC = Military Traffic Management Command, TMO = Traffic Management Office, RFI = Request for information, CAO = Contract Administration Office.

FIG. A-3. TRANSPORTATION DISCREPANCY REPORT



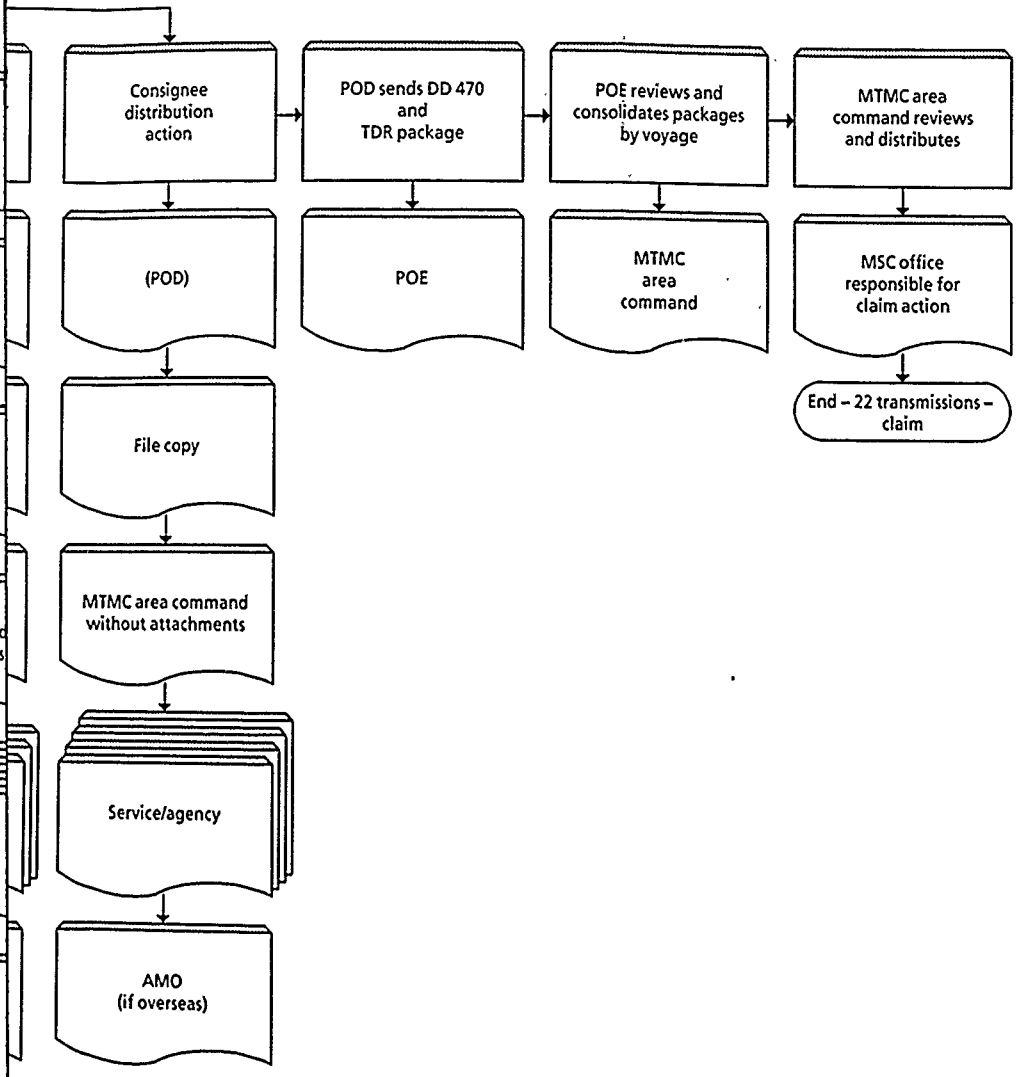
AO = Contract Administration Office.

ATION DISCREPANCY REPORT FLOW CHART



Note: MSC = Military Sealift Command POE = port of embarkation, POD = port of debarkation, TDR = Transportation Discrepancy Report, AMO = area monitoring office

FIG. A-3. TRANSPORTATION DISCREPANCY REPORT FLOW



Report; AMO = area monitoring office.

DISCREPANCY REPORT FLOW CHART (Continued)

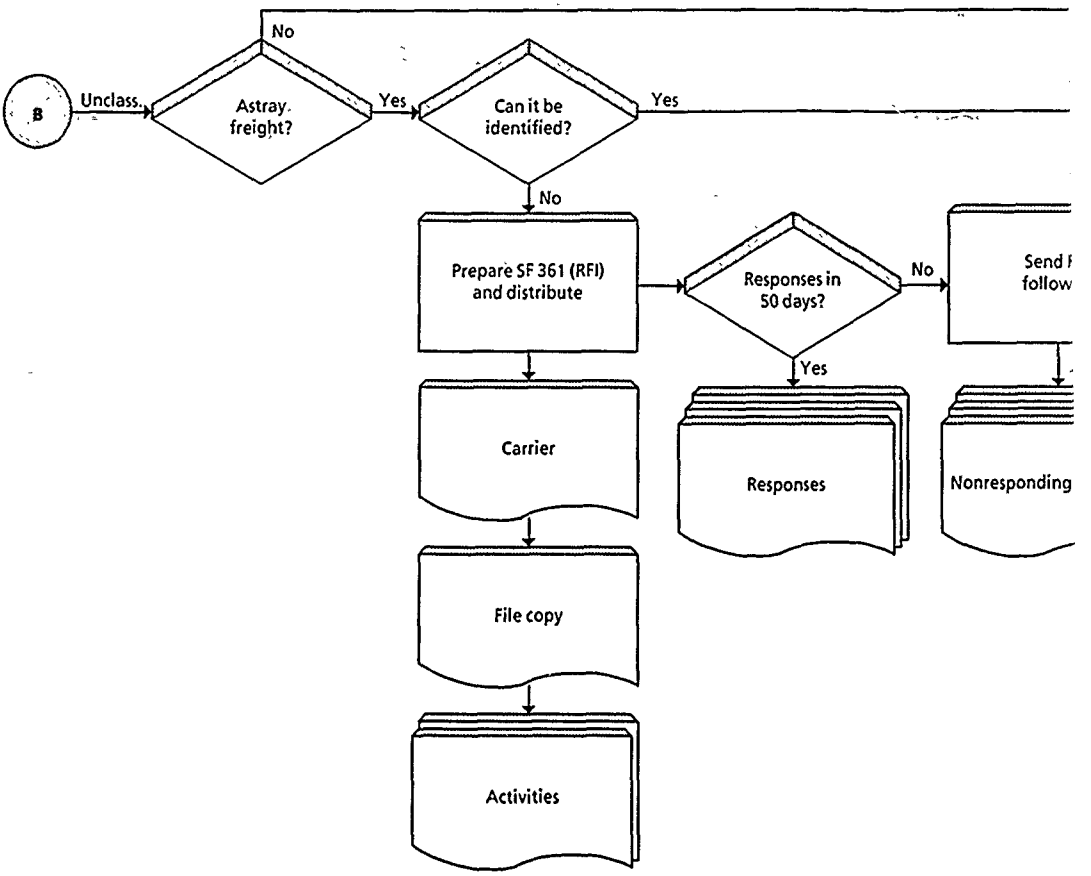
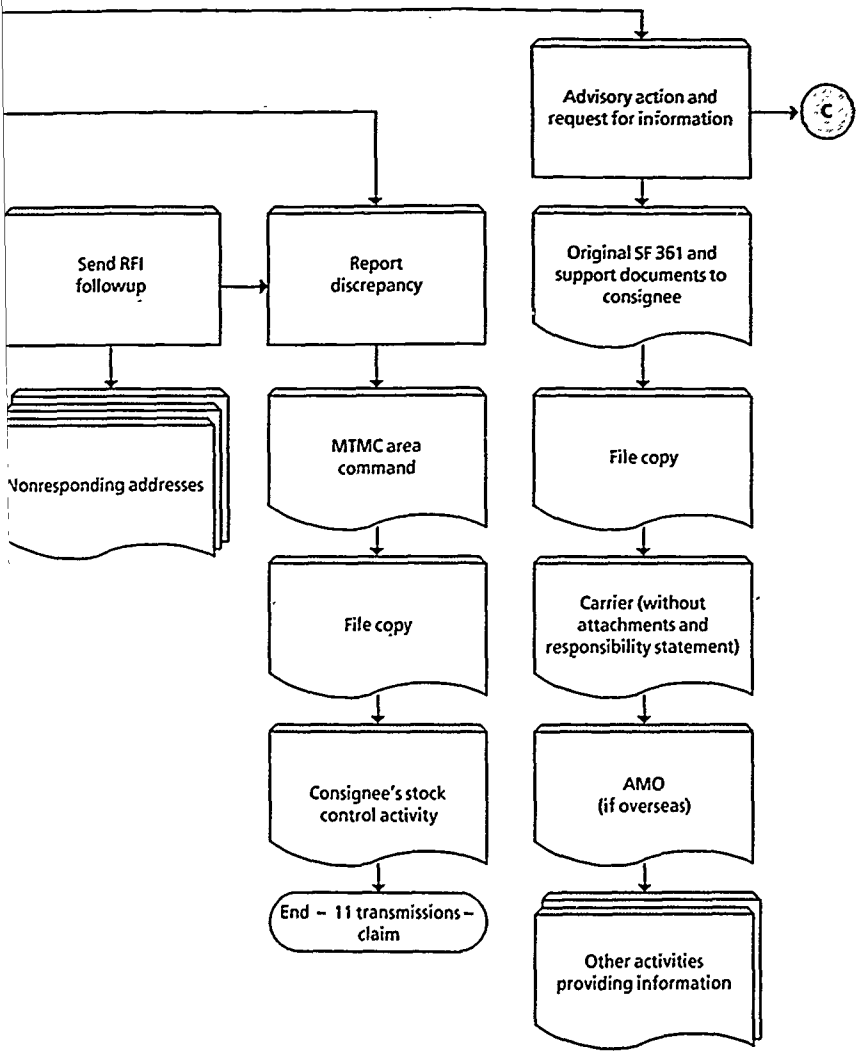


FIG. A-3. TRANSPORTATION DISCREPANCY REPORT FLOW CH



PORT FLOW CHART (Continued)

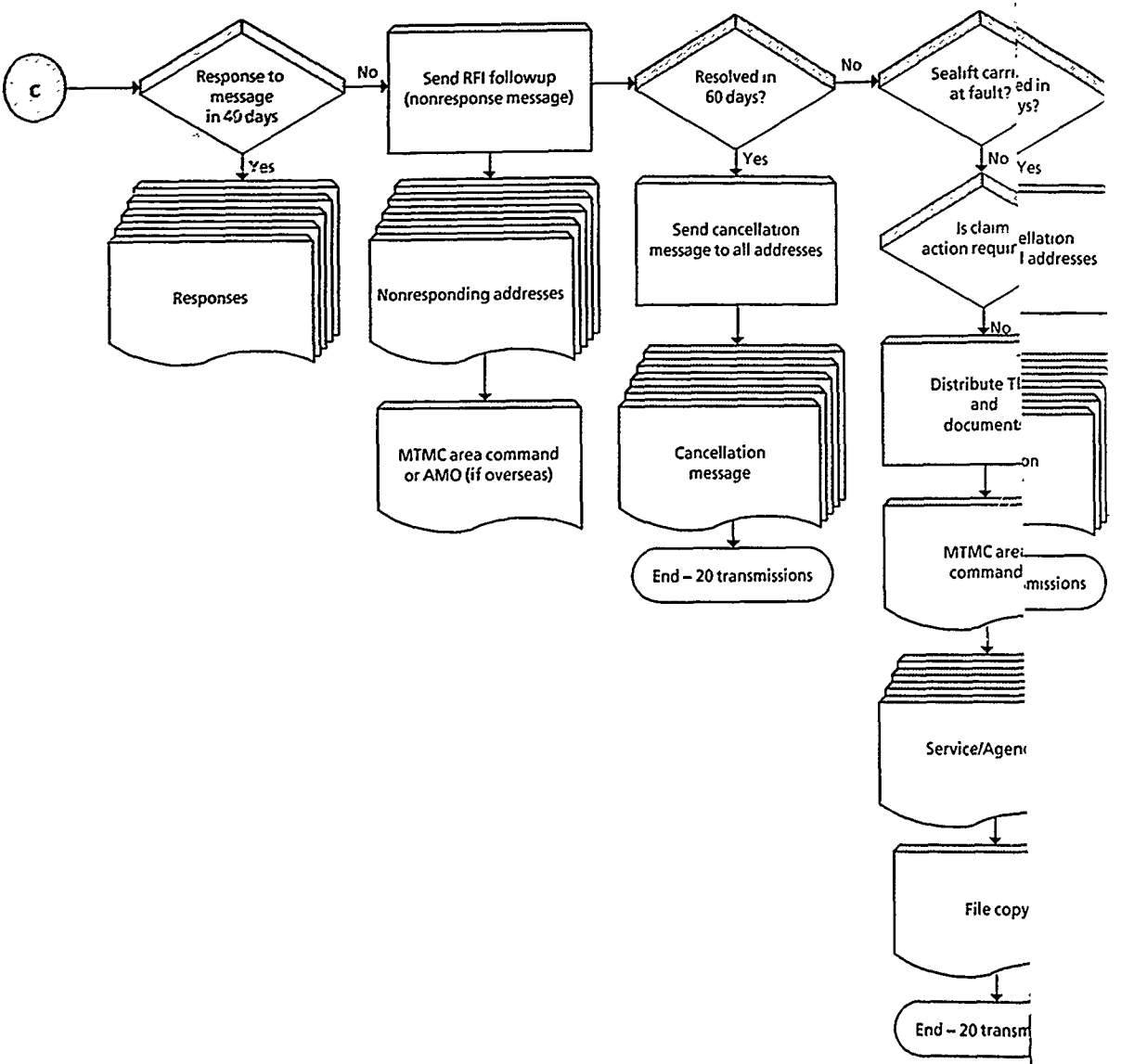
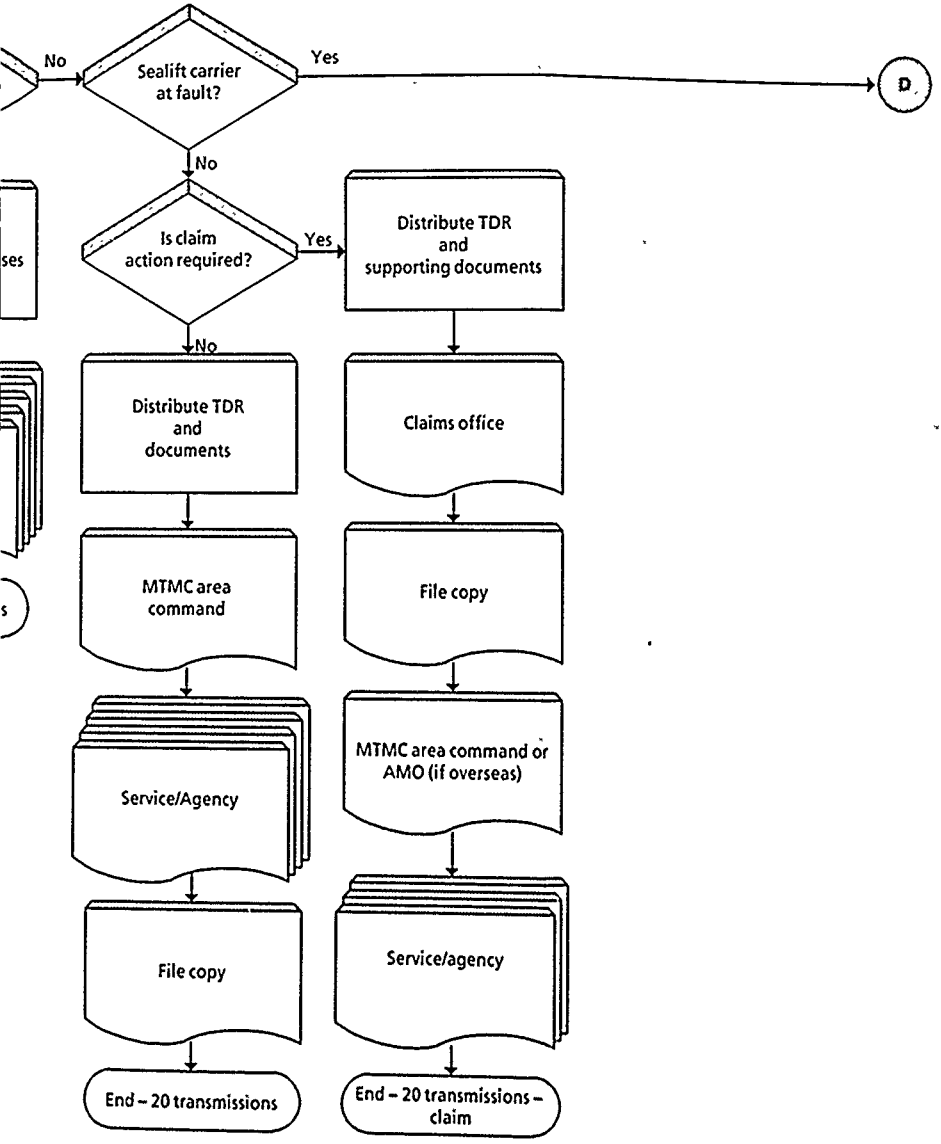
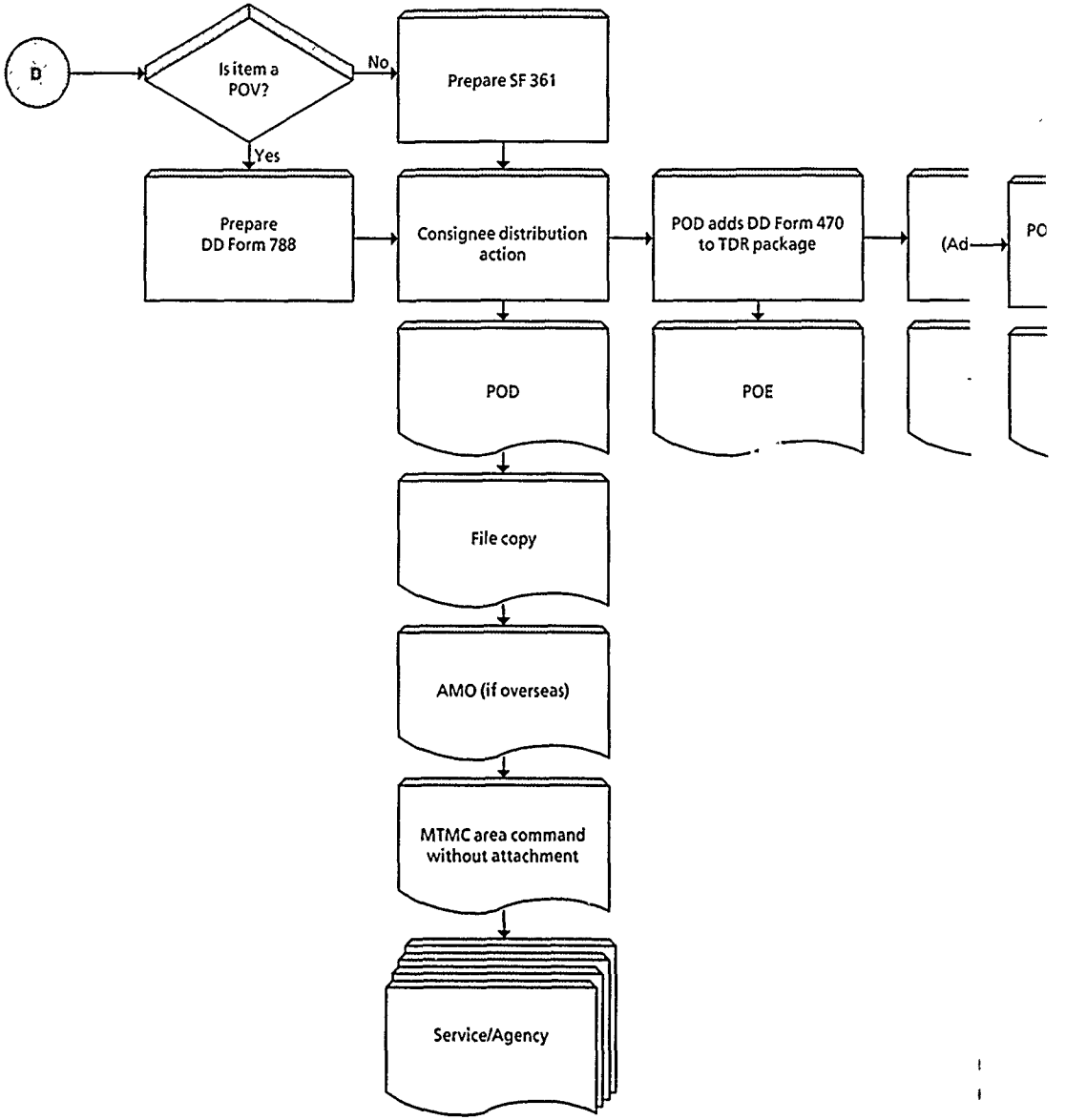


FIG. A-3. TRANSPORTATION DISCREPANCY REPORT FLOW CHA DISCREPAI

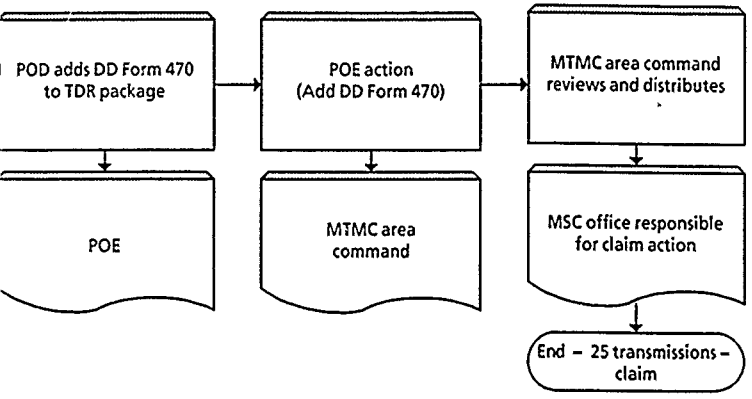


EPANCY REPORT FLOW CHART (Continued)



Note: POV = Privately owned vehicle.

FIG. A-3. TRANSPORTATION DISCREPANCY REPORT FLOW CHART (Continue



PANCY REPORT FLOW CHART (Continued)

APPENDIX B

SUMMARY OF AUTOMATED DISCREPANCY REPORTING SYSTEMS

SUMMARY OF AUTOMATED DISCREPANCY REPORTING SYSTEMS

AUTOMATED DISCREPANCY REPORTING SYSTEM (ADRS) – DEFENSE LOGISTICS AGENCY (DLA)

Applicable reports:

SF 364, Report of Discrepancy (ROD)

DD Form 1225, Storage Quality Control Report

The ADRS is employed at DLA depots to collect Form 1225 and Standard Form (SF) 364 data. The data are input into existing terminals on the receiving line and in the surveillance inspection areas. As part of the input process, the data are validated before being sent via Automatic Digital Network (AUTODIN) to the Customer/Depot Complaint System (CDCS) at the appropriate Defense Supply Center (DSC). Additional data from the depot supply system are added to complete the record. A record which can be queried is retained for review, and a printout is automatically produced for placement with the discrepancy materiel.

CUSTOMER DEPOT COMPLAINT SYSTEM (CDCS) – DLA

Applicable reports:

SF 364, Report of Discrepancy

DD Form 1225, Storage Quality Control Report

SF 380, Reporting and Processing Medical Materiel Complaints/Quality Improvement Report

DD Form 1938, Government-Industry Exchange Program Alert

SF 361, Transportation Discrepancy Report (TDR)

SF 368, Product Quality Deficiency Report (PQDR)

The CDCS is used at the DLA centers (or DSCs) to receive, investigate, and resolve customer complaints which can be received in eight different formats. A series of CD__ transactions is used to relay data between the depots and centers. The

quality assurance office is the focal point for complaints and enters the data if not received electronically from a DLA depot. Upon receipt of a complaint mechanically, the system automatically sends the acknowledgment; establishes a suspense date; and assigns an action office based on a table of stock numbers, document types, condition codes, etc. Action offices access assigned complaints through the system and take appropriate action to resolve them. Depots, international logistics offices, and other selected offices have on-line access to the network to check the status of actions. A variety of standard management reports are available at different intervals. Users can make a variable inquiry which keys on prescribed fields.

CENTRAL PQDR DATA BASE – DLA

Applicable report:

SF 368, Product Quality Deficiency Report

The PQDR data base is updated weekly with selected data from DLA's Standard Automated Materiel Management System (SAMMS) and Mechanized Contract Administration System (MOCAS). It is accessible by dial-in through a modem or through the DLA network (DLANET). It currently provides about 40 structured reports and will later have an ad hoc query capability.

DEFICIENCY REPORTING SYSTEM (DRS) – ARMY

Applicable report:

SF 364, Report of Discrepancy

The DRS is part of the Army's Commodity Command Standard System (CCSS) and is standard at all Major Subordinate Commands (MSC). It is a repository of data, and a status and accounting source for the PQDR and Report of Discrepancy (ROD), as well as Army-unique reports such as Equipment Improvement Recommendations, and Warranty Claim Actions. When the report is received at the MSC, the information is entered into the data base. Once a month, update tapes are sent to a consolidated discrepancy reporting system (DRS) data base. It can be accessed by Defense Data Network (DDN) message or direct dial-through personal computers with modems. S2K language is used for queries. The data requested over the DDN will be returned to the user's mailbox. The system maintains a contractor quality history. It can produce summary management and detailed reports.

TRANSPORTATION DISCREPANCY REPORTING SYSTEM (TDRS) – MILITARY TRAFFIC MANAGEMENT COMMAND (MTMC)

Applicable report:

SF 361, Transportation Discrepancy Report

This system collects data from TDRs that have been sent to the MTMC area command offices. The collected data are transferred by modem to the main computer at Headquarters (HQ) MTMC. Standard reports are prepared and sent to the Service/Agency headquarters. Periodic, structured reports are also available to the HQ MTMC staff. The staff can make nonstandard inquiries by submitting a request to the information systems department.

AUTOMATED ROD SYSTEM (ARS) – NAVY

Applicable report:

SF 364, Report of Discrepancy

The ARS is a tracking and control system that is used at Naval Supply Centers and Depots. Technicians enter the data manually from the paper form. The data are then augmented by other data from the local supply system. Upon resolution, a paper copy is printed and mailed. The system allows the user to sort and compile data at the site; ROD followups and credit followups can be generated automatically. It is designed to interface with inventory and financial systems. ROD data are sent to the Product Deficiency Reporting and Evaluation Program (PDREP) to be added to the vendor performance history. Quarterly, ROD processing personnel use the system to prepare summary reports which they mail to higher headquarters.

ELECTRONIC QUALITY DEFICIENCY REPORTING (EQDR) SYSTEM – NAVY; QUALITY MANAGEMENT SYSTEM (QMS); QUALITY DEFICIENCY REPORT (QDR) INFORMATION PROCESSING SYSTEM (QIPS)

Applicable report:

SF 368, Product Quality Deficiency Report

These three systems support the collection, transmission, and processing of quality deficiency reports. The EQDR system is a personal computer data base system into which PQDR data are entered by the aviation community and transmitted to the QMS at the Naval Air Systems Command (NAVAIR). The QMS,

which is being completed, consists of a file server and a data base. At NAVAIR, critical data elements would be screened using the table of critical data elements. The table will be used during resolution and will have an interface with PDREP to update contractor evaluation information. QIPS is the equivalent of QMS for nonaviation materiel. The Fleet Material Support Office (FMSO) screens PQDRs and enters the data into QIPS, and the Ships Parts Control Center (SPCC) uses the system during resolution. Processing involves inputting and modifying data, preparing reports, and making inquiries. The system has an ad hoc inquiry program so the user can generate reports based on any data element. Output is directed to either a terminal or high-speed printer and can consist of case listings or summary reports. Selected data from QIPS are fed weekly into PDREP (next system) via modem.

PRODUCT DEFICIENCY REPORTING AND EVALUATION PROGRAM (PDREP) – NAVY

Applicable reports:

SF 368, Product Quality Deficiency Report

SF 364, Report of Discrepancy

The PDREP system is designed to provide vendor performance data to ensure the correction and prevention of product deficiencies. It consists of several data bases: the Syscom QDR update files receive and screen selected information from Naval PQDR systems such as QMS and QIPS which are subsequently moved into the PDREP QDR data base; the Contractor Evaluation System (CES) data base receives data from Syscom contractor evaluation collection points; and the ROD data base accepts data from the ARS collection points at supply centers and depots. The system has a variety of top management reports. It does not interface with the DLA PQDR data base.

DISTRIBUTION QUALITY ASSURANCE REPORTING AND EVALUATION SYSTEM (GO91) – AIR FORCE

Applicable report:

SF 364, Report of Discrepancy

The GO91 system is a tracking system which is used to manage all the inventory quality checks done by the supply function, including RODs. It contains

data on closed incoming and outgoing RODs and does not interface with the depot supply system. Reports are programmed and limited, although there are plans to improve the query capability and access.

INFOCEN – AIR FORCE

Applicable report:

SF 368, Product Quality Deficiency Report

This is a central data base into which Consolidated Aircraft Maintenance System (CAMS) and non-CAMS users can directly input quality deficiency report data. It is accessed by action points at the centers who assign the action office. Users modify the records in the central data base. The software has full text narrative and fixed fields in addition to query and report writing capabilities. It is accessed through DDN, the host system, or direct dial-in using an 800 telephone number. The system could have outside interfaces with the systems of other Services.

MARINE CORPS REPORT OF DISCREPANCY INFORMATION SYSTEM (MCRODIS): MARINE CORPS QUALITY DEFICIENCY INFORMATION SYSTEM (MCQDIS)

Applicable reports:

SF 364, Report of Discrepancy

SF 368, Product Quality Deficiency Report

The MCRODIS collects data on RODs, and MCQDIS receives data on PQDRs. Both are tracking systems for nonaviation materiel. They are located at a depot screening point at which data are entered manually from paper forms. They use a flat file structure, but the data are retrievable. They are stand-alone systems with no automatic processing features.

AUTOMATED ROD RESOLUTION SYSTEM (ARRS) – GENERAL SERVICES ADMINISTRATION (GSA)

Applicable reports:

SF 368, Product Quality Deficiency Report

SF 364, Report of Discrepancy

SF 361, Transportation Discrepancy Report

The GSA system is used at the Discrepancy Reporting Center (DRC) to track and aid the resolution of RODs, TDRs, and PQDRs. In its current configuration, data are entered manually and combined with additional information available from the main Federal Supply Service computer in Washington, D.C. Processing includes the capability to "Auto Resolve" some reports based on parameters set by the users. It produces standard letters and forms to communicate with customers. The technicians within the DRC are tied together on a local area network and can access the data base. The system provides management reports and features production and work management tracking, queue management, and tables with approval levels for final action. When fully operational, it will format credit transactions and direct them to finance.

APPENDIX C

COST SAVINGS

COST SAVINGS

In a previous Logistics Management Institute (LMI) document, *A Business Case for Electronic Commerce*, we presented representative cost savings and benefit estimates derived from electronically transmitting a number of documents commonly used within DoD, including the three discrepancy report forms.[1] The *Business Case* was modified by DoD to become Defense Management Report Decision (DMRD) No. 941. The assessment of the three discrepancy report forms addressed in that analysis has been updated based on our more detailed analysis of discrepancy reporting and is presented below following the same analytical approach.

The DMRD used low-, medium-, and high-cost categories for document processing operations using engineered work standards obtained from the Defense Finance and Accounting Service, Indianapolis. Our analysis as reflected in Table C-1 uses the same methodology with the following exceptions:

- "Mailing" costs were increased based on the assumption that mailings are for single reports rather than consolidated mailings.
- "Error resolution" and "Document processing" were combined and the values increased to more accurately reflect the specific nature of discrepancy processing.
- "Telephone procurement" was deleted as not applicable to this case.
- The Direct Cost Savings Worksheets were updated to reflect revised transaction counts based on sample data collected [e.g., primarily, we included Transportation Discrepancy Report (TDR) requests for information (RFIs) while the "Business Case" included only TDRs provided to the Military Traffic Management Command (MTMC)], a more complete range of processing units [e.g., receiver, inventory control points (ICPs), etc.] for each form, and estimated processing categories for each added processing unit. (See Tables C-4, C-5, and C-6.)

Table C-2 reflects revised annual direct cost savings estimates for the three forms as $2.7 million.

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[1]LMI Report DL001-06R1, *A Business Case for Electronic Commerce*, Thomas P Hardcastle, and Thomas W. Heard, September 1990.

TABLE C-1

DIRECT COST SAVINGS THROUGH ELECTRONIC DATA INTERCHANGE

Operation[a]	Activity	Comment	Cost category ($)		
			Low	Medium	High
Document distribution	Separate documents, make copies, route to mail room, prepare address labels, stuff envelopes	Costs increase with complexity of operation	0.02	0.04	0.06
Mailing	Procure envelopes and stamps	Costs increase with number of documents requiring single envelopes	0.30[b]	0.30[b]	0.30[b]
Document receipt	Receive, open, sort, date stamp, route	Costs increase with complexity of sorting	0.01	0.02	0.03
Document processing	Match, reconcile, audit	Costs increase with document complexity and data volume	0.34[b]	0.68[b]	0.85[b]
Document preparation and control	Examine and prepare for data entry	Costs increase with document complexity	0.13	0.21	0.47
Data entry	Enter data	Costs increase with volume of data	0.06	0.17	0.68
Document storage and retrieval	Log, separate, sort, microfilm, box, file, retrieve documents	Costs increase with filing and microfilming requirements	0.10	0.16	0.28

[a] Error resolution and telephone procurement operations deleted from *A Business Case for Electronic Commerce*.

[b] Values changed from *A Business Case for Electronic Commerce*.

TABLE C-2

SUMMARY OF DIRECT COST SAVINGS ESTIMATES

Reports	Estimated annual volume	Savings ($ millions)
TDR (and claims)	250,000	0.7
ROD[a]	286,234	1.5
PQDR[b]	95,143	0.5
Total		2.7

[a] ROD = Report of Discrepancy.

[b] PQDR = Product Quality Deficiency Report

Life-cycle direct savings of $15.1 million are reflected in Table C-3 based on a phased implementation over 8 years.[2]

TABLE C-3

LIFE-CYCLE COST SAVINGS ($ MILLIONS)

Year	1	2	3	4	5	6	7	8
Rate of implementation	8%	29%	55%	75%	92%	100%	100%	100%
Savings	0.2	0.8	1.5	2.0	2.5	2.7	2.7	2.7

Note: Total life-cycle direct savings $15.1 million.

Specific calculations and revised worksheets for the TDR, ROD, and PQDR are presented in the following pages.

We calculated investment costs using the same methodology as used in the DMRD. In the DMRD, the savings-to-investment ratio for all forms was 6.447 to 1. Applying that ratio to the life-cycle direct savings of $15.1 million for this study results in an investment cost of $2.3 million.[3]

In summary, DoD needs to invest $2.3 million in hardware, software, and communications to achieve a life-cycle direct savings of $15.1 million. The net savings for automating three forms over an 8-year period is $12.8 million.

[2]Calculation of phased life-cycle direct savings over a 10-year period as determined in the "Business Case" [13] results in an $11.6 million savings.

[3]The "Business Case" used a savings-to-investment ratio of 14.8 to 1 resulting in an investment cost of $0.8 million for three forms over a 10-year period.

TABLE C-4

DIRECT COST SAVINGS WORKSHEET (SF 361 – TRANSPORTATION DISCREPANCY REPORT)

(Savings per processing unit)

Cost activity	Receiver ($ M)	Transship ($ M)	Shipper ($ M)	Subtotal ($ M)	Claims Office ($ M)	MTMC AC[a] ($ M)
Distribution	0.04	0.04	0.02	0.10	0.04	0.00
Mailing	0.30	0.30	0.30	0.90	0.30	0.00
Receipt	0.01	0.02	0.01	0.04	0.01	0.01
Processing	0.68	0.34	0.68	1.70	0.68	0.34
Prep. & control	0.13	0.13	0.13	0.39	0.21	0.13
Data entry	0.06	0.00	0.00	0.06	0.06	0.06
Storage & retrieval	0.10	0.10	0.00	0.20	0.28	0.16
Subtotal	1.32	0.93	1.14	3.39	1.58	0.70
Tele. cost (– $)	0.32	0.04	0.17	0.53	0.01	0.11
Total	1.00	0.89	0.97	2.86	1.57	0.59

Total savings = annual volume x savings per document

Total savings ($ M) = 250,000 x $2.86 = $0.70 [TDRs]
5,000 x $1.57 = +.01 [Claims]
26,000 x $0.59 = +.02 [MTMC]
$0.70

[a] AC = Area Command.

TABLE C-5

DIRECT COST SAVINGS WORKSHEET (SF 364 – REPORT OF DISCREPANCY)

(Savings per processing unit)

Cost activity	Receiver ($ M)	Shipper ($ M)	Shipper ICP ($ M)	PROCRMT ($ M)[a]	Finance Office ($ M)	Subtotal ($ M)	ILCO[b] ($ M)
Distribution	0.04	0.02	0.02	0.02	0.02	0.12	0.02
Mailing	0.30	0.30	0.30	0.30	0.00	1.20	0.30
Receipt	0.01	0.01	0.03	0.01	0.01	0.07	0.01
Processing	0.34	0.34	0.68	0 68	0.68	2.72	0.68
Prep. & control	0.13	0.13	0.21	0.13	0.13	0.73	0.13
Data entry	0.06	0.06	0.17	0.06	0.06	0.41	0.06
Storage & retrieval	0.10	0.10	0.16	0.10	0.16	0.62	0.10
Subtotal	0.98	0.96	1.57	1.30	1.06	5.87	1.30
Tele.cost (– $)	0.32	0.05	0.14	0.05	0.07	0.63	0.01
Total	0.66	0.91	1.43	1.25	0.99	5.24	1.29

Total savings = annual volume x savings per document

Total savings ($ M) = 286,234 x $5.24 = $1.50
34,348 x $1.29 = +.04
$1.50

[a] PROCRMT = Procurement.

[b] ILCO = International Logistics Control Office.

TABLE C-6

DIRECT COST SAVINGS WORKSHEET (SF 368 – PRODUCT QUALITY DEFICIENCY REPORT)

Savings per processing unit

Cost activity	Orig. point ($ M)	Screen point ($ M)	Action point ($ M)	Support point ($ M)	Subtotal ($ M)
Distribution	0.02	0.02	0.02	0.02	0.08
Mailing	0.30	0.30	0.30	0.30	1.20
Receipt	0.01	0.02	0.03	0.02	0.08
Processing	0.34	0.34	0.68	0.34	1.70
Prep. & control	0.13	0.13	0.21	0.47	0.94
Data entry	0.06	0.06	0.17	0.17	0.46
Storage & retrieval	0.10	0.10	0.16	0.28	0.64
Subtotal	0.96	0.97	1.57	1.60	5.10
Tele. cost (– $)	0.14	0.04	0.07	0.04	0.28
Total	0.82	0.93	1.50	1.56	4.82

Total savings = annual volume x savings per document

Total savings ($ M) = 95,143 x $4.82 = $0.5

APPENDIX D

LIST OF INTERVIEWEES

LIST OF INTERVIEWEES

Last name	First name	Service/Agency	Activity[a]
Alston	Vera	Army	MTMC
Averett	Tamberly	Defense Logistics Agency	DASC
Bagg	Jim	Air Force	HQ USAF
Baker	Cheryl	Defense Logistics Agency	DCSC
Banks	Billy	Air Force	AFLC ILC
Bernier	Shirley	Navy	NADEP NORFOLK
Bonowitz	Julie	General Services Administration	FSS
Brillhart	Mary	Navy	NAS OCEANA
Brown	Dan	Navy	FMSO
Brown	Don	Defense Logistics Agency	DDCO
Bubenheim	Dave	Air Force	HQ AFLC
Bucco	Louise	DoD	DFAS-DENVER
Burke	Brian	Navy	NSC NORFOLK
Burkey	Clarence	Defense Logistics Agency	DCMC
Burrowes	Jim	General Services Administration	GSA
Burt	Curtis	Defense Logistics Agency	DCMC
Butt	William	Defense Logistics Agency	DCSC
Cardullo	Viviar	Defense Logistics Agency	DPSC
Carter	Shelby	DoD	DLSSD
Clarke	Norman	Navy	NAVAIR
Collins	Ree	Navy	NAVSUP
Conchieri	Ray	Defense Logistics Agency	HQ DLA
Connor	Paul	Defense Logistics Agency	HQ DLA
Corbin	Lisa	Defense Logistics Agency	DASC
Coreman	Sandy	Defense Logistics Agency	DCMC-PHILADELPHIA
Cory	Martha	Marine Corps	MCLB
Dailey	Mike	Army	HQ AMC
Davis	Dee	Navy	NAVILCO
Densky	Dennis	Navy	NAVSUP
Dilizio	Steve	Defense Logistics Agency	DPSC

[a] All acronyms in this column are defined in the Glossary (Appendix E).

Last name	First name	Service/Agency	Activity[a]
Dorrin	Col____	Defense Logistics Agency	HQ DLA
Drosdek	Ellen	Air Force	2750 SUPS
Easter	Pam	Navy	NSC NORFOLK
Ennis	Tom	Defense Logistics Agency	DPSC
Fair	Paul	Army	CECOM
Fedele	CDR Alan	Navy	NAVILCO
Felix	Donna	Navy	NAVSUP
Files	Bill	Defense Logistics Agency	HQ DLA
Frisdo	John	Interstate Commerce Commission	ICC
Galen	Tony	Navy	NAVAIR
Garner	Elaine	Navy	NADEP NORFOLK
Garrett	Yvonne	Air Force	2750 SUPS
Gaydosh	Bob	Navy	NAVSUP
Gerwitz	Mike	Army	HQ AMC
Gibson	Jerry	Army	HQ AMC
Gindraw	Mike	Navy	NAVILCO
Gladney	Louis	Marine Corps	MCLB
Green	James	Defense Logistics Agency	DDCO
Gribble	Tom	Navy	NAVSUP
Harper	Daphne	General Services Administration	FSS
Hiles	Kathy	Defense Logistics Agency	DCSC
Hunter	Crystal	Army	MTMC
Ibarra	Joe	Navy	NSC NORFOLK
Ibarra	William	Air Force	SA-ALC
Jackson	Ann	Navy	NAVSUP
Jeffries	Wayne	Navy	FMSO
Johnson	Jim	DoD	DLSSD
Kaskoff	Herb	Army	MTMC
Kenig	Irv	DLA	DISC
Kenna	Eileen	DoD	DLSSD
Kessler	Ms____	Army	TROSCOM
Kordes	Karen	DoD	DFAS-INDIANAPOLIS
Krafsig	Jim	DoD	DLSSD
Lewis	Jim	DoD	DLSSD

[a] All acronyms in this column are defined in the Glossary (Appendix E).

Last name	First name	Service/Agency	Activity[a]
Lieb	Dennis	Defense Logistics Agency	DCSC
Lommatsch	Jerry	Air Force	HQ AFLC
Loe	Don	Air Force	HQ AFLC
Maiorino	Nick	Defense Logistics Agency	DCSC
Mareski	Doug	Air Force	DCSC
Martin	Kinella	Defense Logistics Agency	DCMC-BALTIMORE
Martin	Mickie	Defense Logistics Agency	HQ DLA
Mayer	Doris	Navy	NAVAIR
McCalib	Bruce	Air Force	HQ AFLC
McDevitt	Tom	DoD	DFAS-DENVER
McKinenny	Alice	Defense Logistics Agency	DCMC-PHILADELPHIA
McKinley	Judy	DoD	DFAS-DENVER
Mechaca	Cruiz	Air Force	HQ USAF
Michalski	Walt	Army	HQ AMC
Miller	Ron	Army	AMCPSCC
Mosqueda	Albert	General Services Administration	FSS
Murphy	Judy	Army	CECOM
Nealon	Jim	Defense Logistics Agency	DCMC-PHILADELPHIA
Ondo-stermer	Trish	Air Force	HQ AFLC
Parker	Bea	Army	HQ AMC
Pesche	LCDR Al	Navy	NSC NORFOLK
Piper	Diane	Navy	NSC NORFOLK
Raita	Deborah	Defense Logistics Agency	DCSC
Ransom	Mike	Army	CECOM
Rice	Dwayne H.	Defense Logistics Agency	HQ DLA
Rogers	Rosslyn	Defense Logistics Agency	DPSC
Roll	Donna	Defense Logistics Agency	DCSC
Ryan	George	Navy	NAS OCEANA
Saxton	Bob	Army	MTMC
Schmidt	Bob	Defense Logistics Agency	HQ DLA
Schwartz	Bill	Navy	NAVMTO
Schweickart	John	Joint Service Activity	TRANSCOM
Seigle	Rhonda	Navy	FMSO
Sheppard	Loretta	Defense Logistics Agency	HQ DLA

[a] All acronyms in this column are defined in the Glossary (Appendix E).

Last name	First name	Service/Agency	Activity[a]
Slavinski	Frank	Navy	NAVAIR
Spade	Tom	Air Force	HQ USAF
Stagel	Frank	Navy	NADEP NORFOLK
Stankas	George	Air Force	2750 SUPS
Steiner	Boyce	General Services Administration	FSS
Stevens	Patricia	Defense Logistics Agency	DCSC
Sullins	Roger	General Services Administration	FSS
Sullivan	Carl	Air Force	HQ USAF
Sullivan	Marge	Navy	NAVSUP
Talwar	LT Sue	Navy	FMSO
Thomas	Larry	Air Force	2750 SUPS
Thompson	Carolyn	Air Force	2750 SUPS
Tindle	Wylie O.	DoD	DFAS-DENVER
Van Gilst	Mark	Air Force	HQ USAF
Vargo	Bob	Air Force	HQ AFLC
Vlasak	Mae	DoD	DFAS-INDIANAPOLIS
Weeks	Rob	General Services Administration	FSS
Weinert	John	Air Force	2750 SUPS
Weisner	Bill	Navy	NSC NORFOLK
Will	John	Army	MTMC
Williams	Andy	Defense Logistics Agency	DDCO
Wright	Billy	Army	CECOM

[a] All acronyms used in this column are defined in the Glossary (Appendix E).

APPENDIX E

GLOSSARY

GLOSSARY

AC	=	Area Command
ADP	=	automated data processing
ADRS	=	Automated Discrepancy Reporting System
AFLC	=	Air Force Logistics Command
AMC	=	Army Materiel Command
AMCPSCC	=	U.S. Army Materiel Command, Packaging, Storage, Containerization Center
ANSI	=	American National Standards Institute
ARRS	=	Automated ROD Resolution System
ARS	=	Automated ROD System
ASC	=	Accredited Standards Committee
ASO	=	Aviation Supply Office
CAMS	=	Consolidated Aircraft Maintenance System
CAO	=	Contract Administration Office
CDCS	=	Customer/Depot Complaint System
CECOM	=	Communications – Electronics Command
CERROD	=	Central Repository for Reports of Discrepancy
CES	=	Contractor Evaluation System
CFR	=	Code of Federal Regulations
CIM	=	Corporate Information Management
DCMC	=	Defense Contract Management Center
DCSC	=	Defense Construction Supply Center
DDCO	=	Defense Depot, Columbus
DDN	=	Defense Data Network

DDS	=	Defense Distribution System
DEPRA	=	Defense European and Pacific Redistribution Activity
DFAS	=	Defense Finance and Accounting Service
DISC	=	Defense Industrial Supply Center
DLA	=	Defense Logistics Agency
DLANET	=	Defense Logistics Agency Network
DLAR	=	Defense Logistics Agency Regulation
DLMS	=	Defense Logistics Management System
DLSS	=	Defense Logistics Standard Systems
DLSSD	=	Defense Logistics Standard Systems Division
DMRD	=	Defense Management Report Decision
DoD	=	Department of Defense
DPSC	=	Defense Personnel Support Center
DRC	=	Deficiency Reporting Center
DRS	=	Discrepancy Reporting System
DSC	=	Defense Supply Center
EA	=	Executive Agent
EDI	=	electronic data interchange
EQDR	=	Electronic Quality Deficiency Reporting
FAX	=	facsimile message
FMS	=	foreign military sales
FMSO	=	Fleet Material Support Office
FSS	=	Federal Supply Service
GAO	=	General Accounting Office
GSA	=	General Services Administration
HQ	=	Headquarters
ICC	=	Interstate Commerce Commission

ICP	=	inventory control point
ILC	=	International Logistics Center
ILCO	=	International Logistics Control Office
LMI	=	Logistics Management Institute
LSIS	=	Logistics Standard Information System
MCLB	=	Marine Corps Logistics Base
MCQDIS	=	Marine Corps Quality Deficiency Information System
MCRODIS	=	Marine Corps ROD Information System
MILSTRAP	=	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	=	Military Standard Requisitioning and Issue Procedures
MOCAS	=	Mechanized Contract Administration System
MODELS	=	Modernization of Defense Logistics Standard Systems
MRADRS	=	Materiel Receipt Acknowledgment and/or Discrepancy Reporting System
MSC	=	major subordinate command; Military Sealift Command
MTMC	=	Military Traffic Management Command
MUFFIN	=	Multi-Use File for Inter-Agency News
NADEP	=	Naval Aviation Depot
NAS	=	Naval Air Station
NAVAIR	=	Naval Air Systems Command
NAVILCO	=	Navy International Logistics Control Office
NAVMTO	=	Navy Material Transportation Office
NAVSUP	=	Naval Supply Systems Command
NSC	=	Naval Supply Center
OASD(P&L)	=	Office of the Assistant Secretary of Defense (Production and Logistics)
OSD	=	Office of the Secretary of Defense